



WHPA

Salt Creek *E. coli* TMDL
Data Report

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CONTENTS	2
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Contents

1	Introduction	6
2	Basin Characterization	8
2.1	Environmental Setting	8
2.2	Hydrologic Setting	20
3	Water-Quality Data	25
3.1	Data Inventory and Assessment	25
3.2	Data Analysis	34
3.3	Magnitude and Temporal Characteristics	34
3.4	Spatial Characteristics	43
3.5	Summary	45
3.6	Data Sufficiency	46
A	Supplemental Data	52

List of Figures

1	Location of the Salt Creek watershed in northwestern Indiana.	9
2	Major hydrologic features in the Salt Creek watershed [U.S. Geological Survey, 1999b].	10
3	NPDES effluent-pipe locations in Salt Creek watershed that are potential sources of <i>E. coli</i>	12
4	Population of Porter County and Valparaiso, Indiana from 1940–2000 [City of Valparaiso, 2002, U.S. Census Bureau, 2000].	13
5	Population density in the Salt Creek basin [U.S. Census Bureau, 2000].	14
6	Land use and land cover in the Salt Creek basin [U.S. Geological Survey, 2000].	15
7	Major crop acreage in Porter County, 1950–2001 [Indiana Agricultural Statistics Service, 2002].	16
8	Livestock population in Porter County, 1975–2001 [Indiana Agricultural Statistics Service, 2002].	17
9	Physiographic relief in the Salt Creek basin [U.S. Geological Survey, 1999a].	18
10	Generalized glacial geology in the Salt Creek basin [Gray and Walls, 2002].	19
11	Major soil regions in the Salt Creek basin [U.S. Department of Agriculture, 1994].	21
12	Mean temperature and precipitation in Valparaiso, Indiana, 1961–1990 [Purdue University, 2002].	22
13	Location of USGS stream gages.	23
14	Flow–duration curve for Salt Creek.	24
15	Mean monthly flows in Salt Creek.	25
16	Locations of IDEM fixed stations in the Salt Creek basin.	28
17	Locations of sampling sites for IDEM special studies in the Salt Creek basin.	30
18	Locations of sites in the Salt Creek basin sampled for the Lake Michigan Interagency Task Force/Non–point Source Committee.	32
19	Locations of sites in the Salt Creek basin sampled for the Lake Michigan Interagency Task Force/Point Source Committee.	33
20	<i>E. coli</i> concentrations measured at IDEM fixed stations, 1991–2001.	35
21	<i>E. coli</i> concentrations measured at IDEM fixed stations, by month, 1991–2001.	36

LIST OF FIGURES

4

List of Tables

1	NPDES facilities in Salt Creek watershed that are potential sources of <i>E. coli</i> and their monitoring frequency.	11
2	Water-quality data sets from the Salt Creek watershed.	27
3	Water-quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000.	53
4	Water-quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000.	61
5	Non-point source water-quality data collected by the Interagency Task Force in the Salt Creek watershed, Porter County, Indiana, 1999-2001.	67
6	Point source water-quality data collected by the Interagency Task Force in the Salt Creek watershed in Porter County, Indiana, 1997-1999.	70
7	Volume of combined sewer overflows and inches of precipitation in Valparaiso, Indiana, collected by the Lake Michigan Interagency Task Force, 1998.	75
8	Water-quality data from the discharge monitoring reports of Major NPDES permit facilities, 1989-2002.	76
9	Water-quality data from the discharge monitoring reports of Minor NPDES permit facilities, 1989-2002.	88
10	Water-quality data from the discharge monitoring reports of Semi-public NPDES permit facilities, 1989-2002.	91
11	Volume of combined sewer overflows and inches of precipitation in Valparaiso, Indiana, obtained from NPDES CSO Monitoring Reports, 2001-2002.	123

1 Introduction

Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be established for each water body in a state that does not meet the water-quality standards for the water body's designated use. The purpose of creating a TMDL is to establish allowable loads of a pollutant such that the water body will meet water-quality standards. Three basic steps are necessary to achieve this goal: 1) Determine all sources of contamination from the watershed, both point and non-point sources 2) Determine the maximum amount of pollutant load to a water body that will maintain water-quality standards 3) Allocate to each source a portion of the allowable load.

In 1998, the Indiana Department of Environmental Management (IDEM) included Salt Creek on the 303(d) list of impaired waters, which was approved by the U.S. Environmental Protection Agency (USEPA) on February 16, 1999 [IDEM, 2002b]. Each water body on the 303(d) list was determined to be impaired by one or more water-quality parameters and then ranked according to severity of impairment. Salt Creek was listed for *Escherichia coli* (*E. coli*) with a severity ranking of "low" [IDEM, 2002a]. The goal of the TMDL program is to reduce the *E. coli* concentrations in Salt Creek to a level that meets its designated-use standard for a full body contact recreational stream. Indiana's water-quality standard for recreational waters is set forth in 327 I.A.C. 2-1-6 and 2-1.5-8(e)(2) [IDEM, 2002b]. The standard reads "*E. coli* bacteria, using membrane filter (MF) shall not exceed one hundred twenty five (125) per one hundred (100) milliliters as a geometric mean based on no less than five (5) samples equally spaced over a thirty (30) day period nor exceed two hundred thirty five (235) per one hundred (100) milliliters in any one (1) sample in a thirty (30) day period."

Escherichia coli is a bacteria found in the intestines of warm-blooded animals. While humans rely upon bacteria for production of important vitamins, such as vitamin K and B-complex vitamins, not all strains of bacteria within the *E. coli* species are beneficial (e.g. *E. coli* O157:H7) [Brown, 1995]. Contact and/or ingestion of these strains of *E. coli* or food and water contaminated with *E. coli* indicates an increased risk of illness in humans. It is not known how many or exactly which bacteria strains cause human illness. Therefore, *E. coli* is used as an indicator species when water is tested. When *E. coli* are present, it is assumed that the water contains harmful bacterial strains and poses a health risk to humans. In addition, the presence of *E. coli* in water also indicates the potential presence of other pathogens, such as protozoans and viruses, that can also cause disease in humans. So, the

presence of *E. coli* indicates contamination which is potentially harmful.

Contamination occurs when water comes in contact with feces from a warm-blooded animal. Water bodies such as lakes, reservoirs, streams, and groundwater can become contaminated from animal or human sources. Feces of wildlife and livestock (raccoons, deer, geese, cows, hogs, etc.) can wash off the landscape into nearby water bodies during precipitation events or be directly deposited by the animal into the water. Human sources include, but are not limited to, failed septic systems, illegal discharges, and sewer overflows.

This report aids in the development of a TMDL for *E. coli* in the Salt Creek watershed. It describes the environmental and hydrologic setting of the watershed, includes an inventory of existing water-quality data collected in the watershed, and presents the results of an analysis of the compiled water-quality data.

2 Basin Characterization

2.1 Environmental Setting

Salt Creek is located in northwestern Indiana (IN) in Porter County (Figure 1). The watershed includes the city of Valparaiso as well as portions of Chesterton and Portage. Salt Creek originates south of Valparaiso, flows northwest around the city, and empties into the Little Calumet River just east of Portage, IN (Figure 2). Ultimately, the creek drains into Lake Michigan through Burns Ditch. Over 30 tributaries and several springs contribute to the streamflow of Salt Creek. In addition, several lakes are located within the watershed; lakes with known names include Lake Louise, Loomis, Silver, and Sager's Lake.

Facilities which discharge substances into natural streams are regulated by the state through the National Pollution Discharge Elimination System (NPDES). Ten facilities within Salt Creek watershed have the potential to directly contribute to the concentration of *E. coli* in the stream (Table 1 and Figure 3). These facilities sample their effluent in accordance with their permit. Most facilities regularly monitor effluent for *E. coli* and/or Fecal coliform. In addition, every facility measures either concentrations of chlorine residuals or uses ultraviolet light to ensure efficient disinfection of effluent waters.

Combined sewers can be significant sources of *E. coli* contamination. Combined sewer systems have sanitary sewer pipes connected to stormwater sewer pipes. Significant rain events can overwhelm the capacity of combined sewers, causing an overflow. An overflow event discharges both stormwater and sewer water from an outfall into nearby streams. The overflow water contaminates the stream with *E. coli*. Until this past year, the city of Valparaiso had three combined sewer outfalls (CSO). Now only one of CSO remains in the watershed. The CSO is permitted to the Valparaiso Municipal Sewage Treatment Plant (Table 1).

The Salt Creek watershed is composed of 49,573 acres, covering 19% of Porter County. Fifty-one percent of the county's population is living in the watershed. Porter County has a population of 146,798 and has grown 12% since 1990. The largest city in the watershed, Valparaiso, accounts for 37% (27,428 people) of the population. Valparaiso has grown 11% since 1990 (Figure 4) [U.S.Census Bureau, 2000]. The majority (70%) of the acreage in Salt Creek's watershed supports only 15% of the population, at a density of less than 500 people per square mile. Much of this land is pasture and farmland. The majority of the watershed population (63%) live in densities of 1,000 - 10,000 people per square mile.

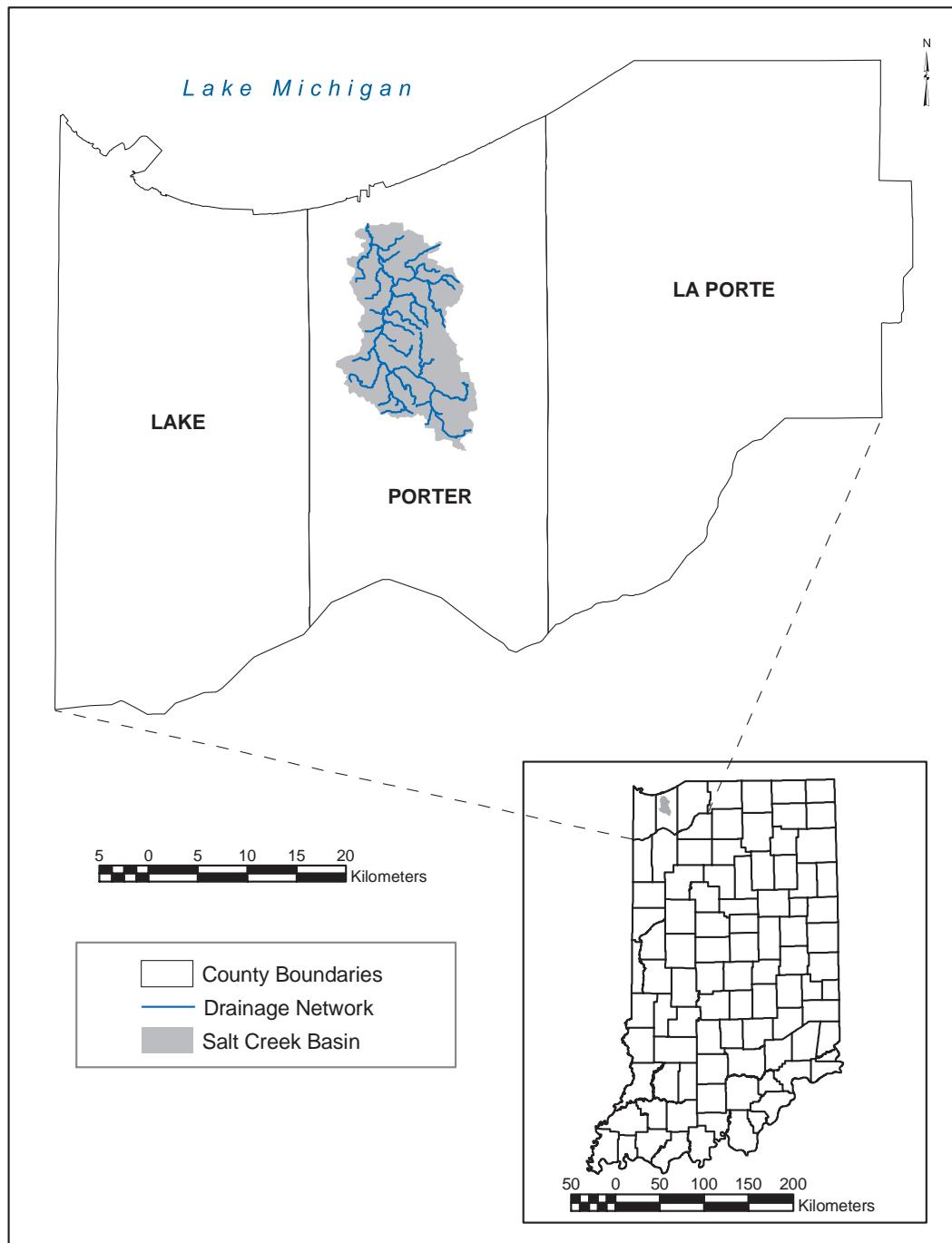


Figure 1: Location of the Salt Creek watershed in northwestern Indiana.

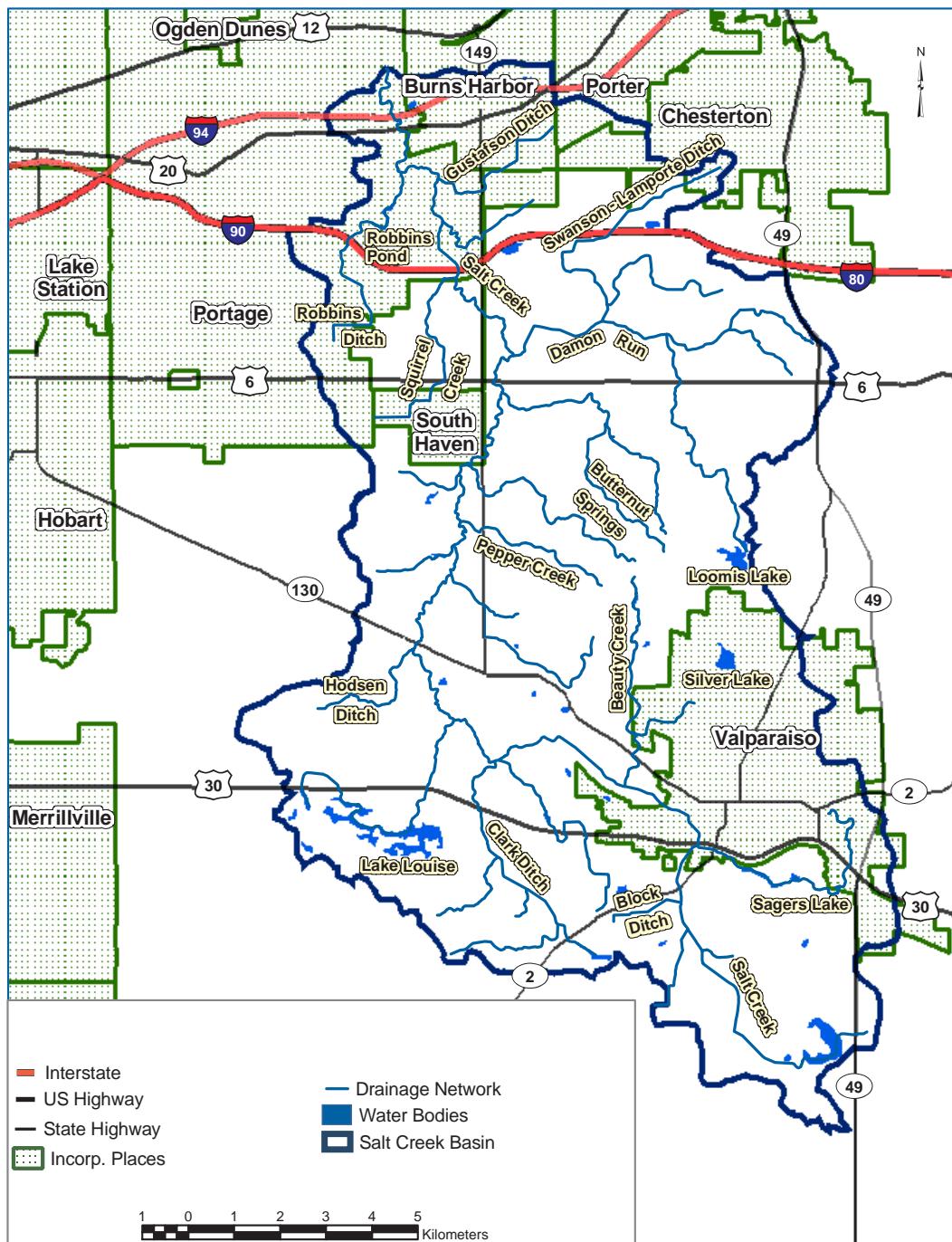


Figure 2: Major hydrologic features in the Salt Creek watershed [U.S. Geological Survey, 1999b].

Table 1: NPDES facilities in Salt Creek watershed that are potential sources of *E. coli* and their monitoring frequency.

<i>Permit Number</i>	<i>Facility Classification</i>	<i>Facility Owner/Operator</i>	<i>CSO</i>	<i>E. coli</i>	<i>Fecal coliform</i>	<i>Chlorine Residuals</i>	<i>Ultraviolet Light</i>
IN0024660	Major	Valparaiso Municipal STP	1	7/week	7/week	7/week	–
IN0030651	Major	South Haven Sewer Works	–	5/week	–	5/week	–
IN0030767	Minor	Liberty Elementary and Middle School	–	1/week	1/week*	2/week	–
IN0031119	Minor	Shorewood Forest Utilities	–	1/week	–	2/99 days**	5/week
IN0035581	Minor	Sands Mobile Home Park	–	–	–	2/week	–
IN0038709	Minor	Liberty Farm Mobile Home Park	–	–	–	5/week	–
IN0039659	Minor	Burns Harbor Estates	–	–	1/week	2/week	–
IN0042021	Minor	Elmwood Mobile Home Park	–	–	1/week	2/week	–
IN0058475	Minor	Nature Works Conservancy District	–	3/week	–	–	5/week
IN0059064	Minor	Mallard's Pointe Condominium	–	–	–	2/week	–

[*Major*, ≥ 1 MGD facility; *Minor*, ≤ 1 MGD facility; *STP*, ⇒ sewage treatment plant; #'/week, number of sample measurements per week required by permit; *, parameter monitored from 1983-1998; **, parameter monitored from 1991-1996]

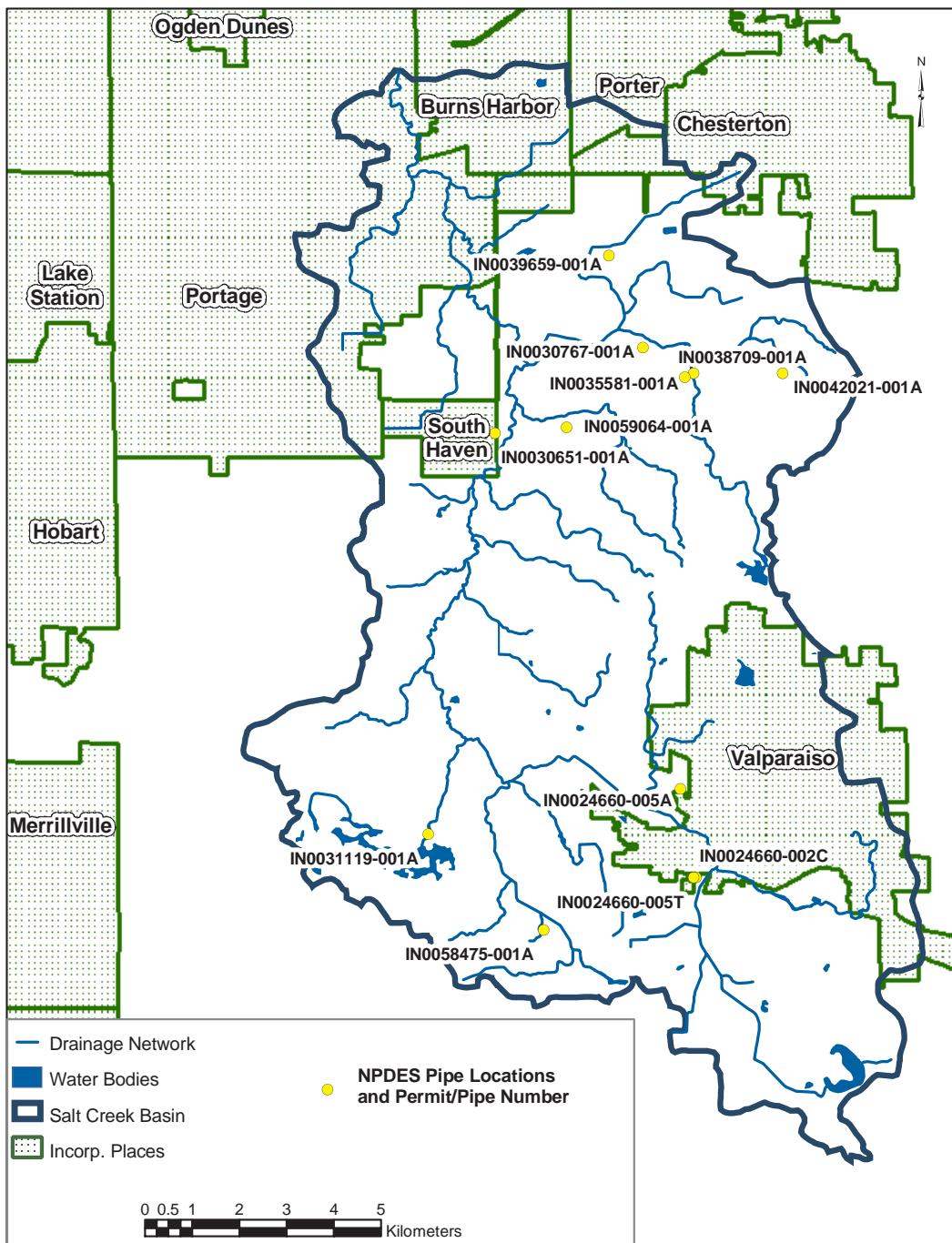


Figure 3: NPDES effluent-pipe locations in Salt Creek watershed that are potential sources of *E. coli*.

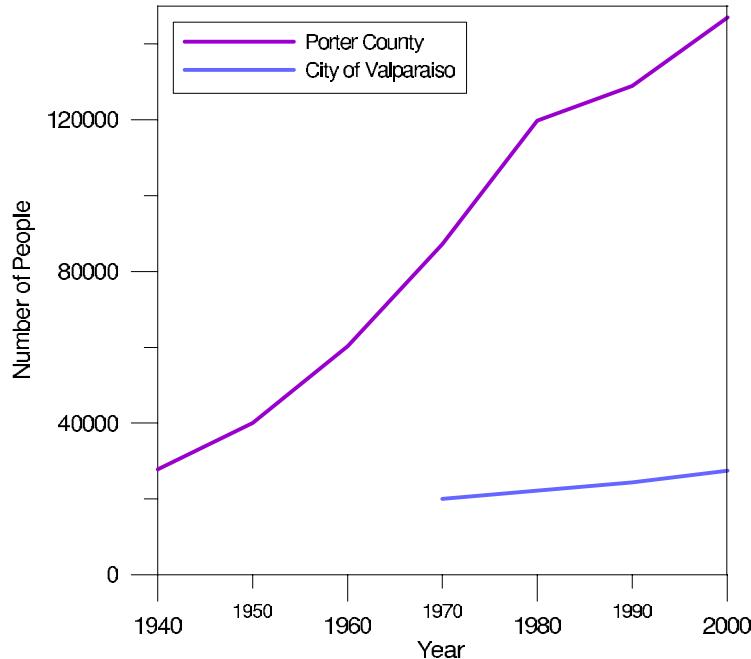


Figure 4: Population of Porter County and Valparaiso, Indiana from 1940-2000 [City of Valparaiso, 2002, U.S. Census Bureau, 2000].

These higher population densities are centered around Valparaiso, South Haven, Portage, and Lake Louise (Figure 5).

Until the 1800's, northwestern Indiana was undeveloped marsh lands, hardwood forests, or grasslands [IDNR, 1994]. Currently, agricultural row crops (23%) and pastureland (18%) account for the two largest land use categories in the watershed (Figure 6). The predominant crops grown in the basin are corn and soybeans (42% and 49%, respectively; Figure 7). The production of these crops has increased whereas wheat and hay production has decreased. Corn and soybean acreage has increased 26% and 71%, respectively, since 1950. In contrast, acreage of wheat and hay dropped 86% and 90%, respectively. Livestock numbers show a general downward trend since 1974, although, the data are lacking in more recent years (Figure 8). The number of cattle in the county has dropped 59%, from 12,700 in 1975 to 5,200 in 2001. Chicken production decreased 39% from 1974 to 1985 and the number of hogs decreased 17% from 1974 to 1995. The non-agricultural acreage is primarily forest and populated areas. The residential, dense residential, and commercial properties account

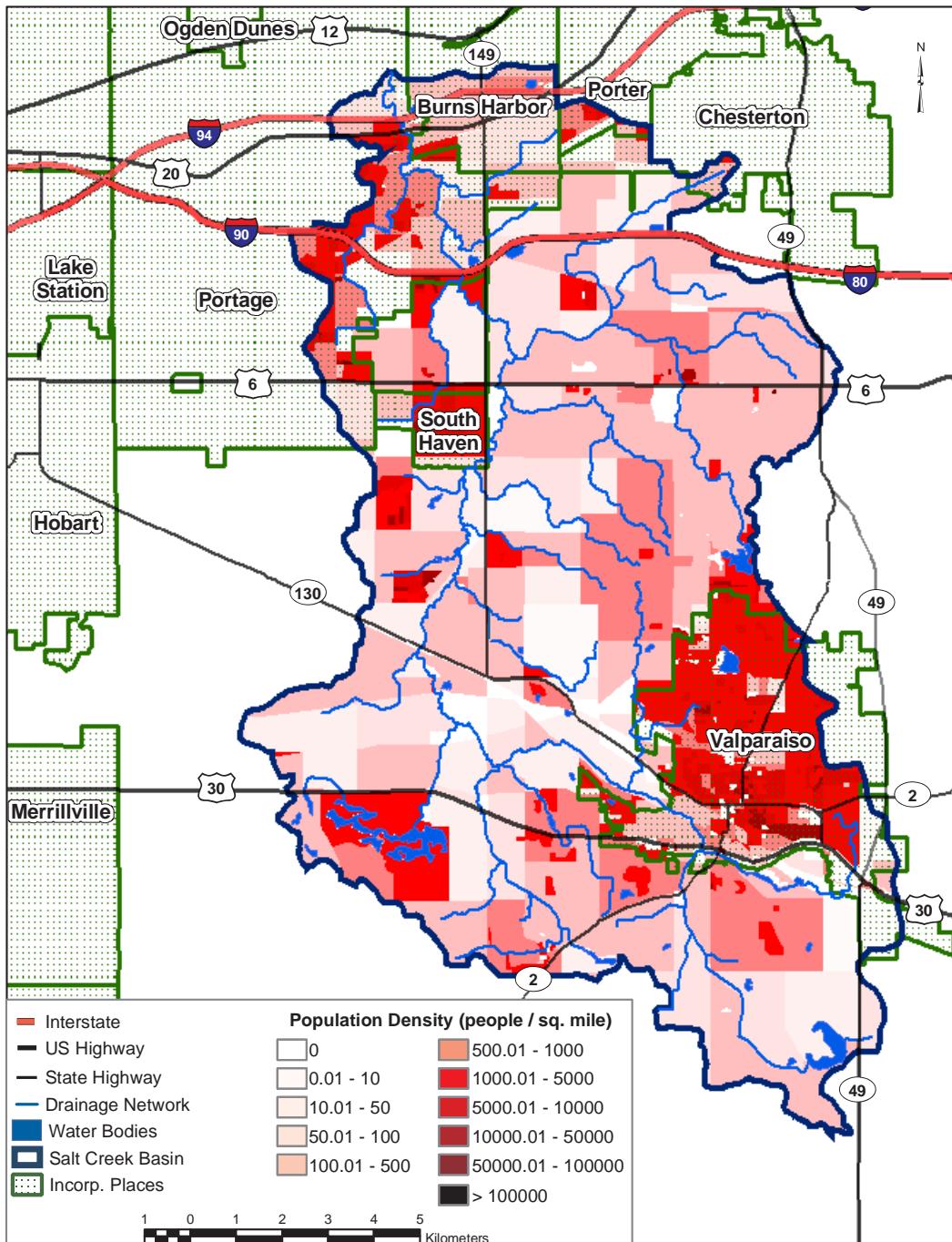


Figure 5: Population density in the Salt Creek basin [U.S.Census Bureau, 2000].

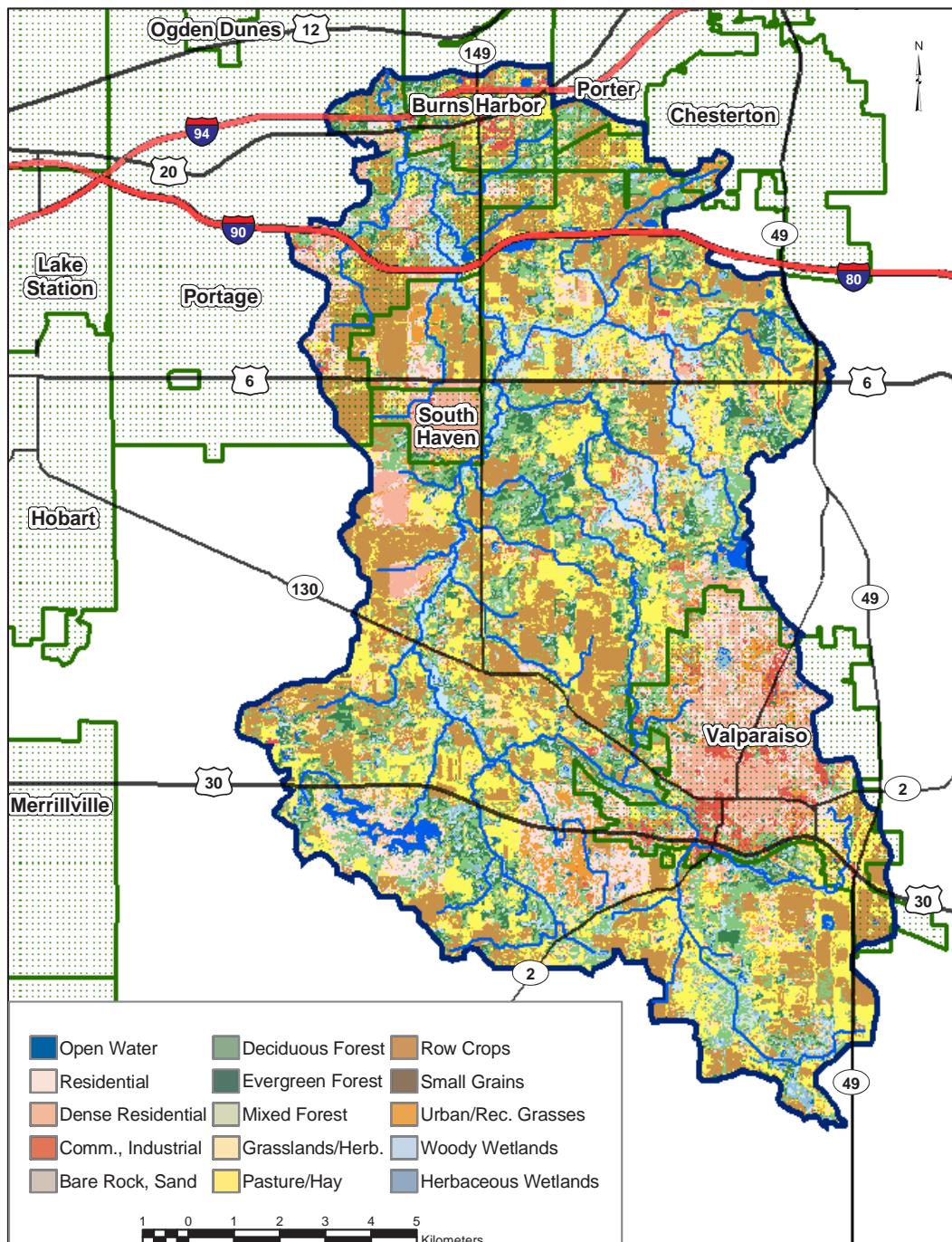


Figure 6: Land use and land cover in the Salt Creek basin [U.S. Geological Survey, 2000].

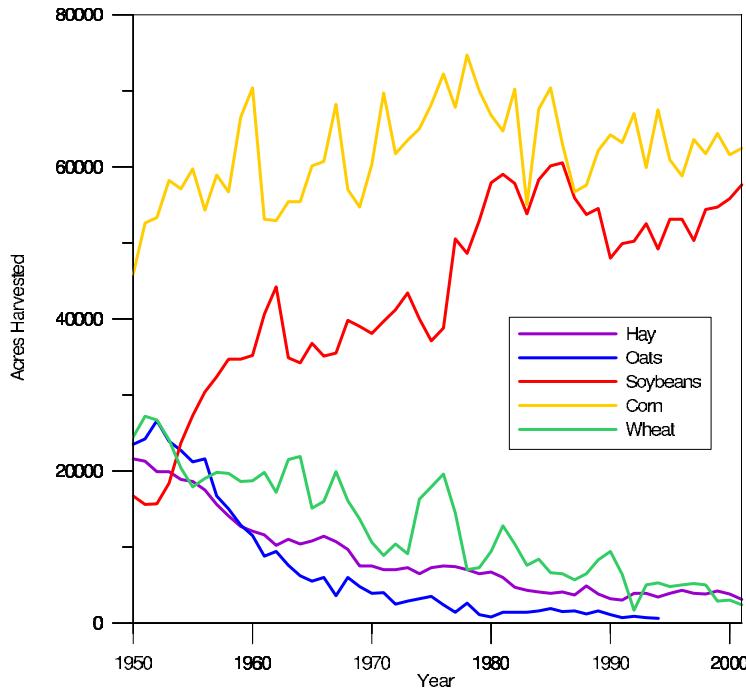


Figure 7: Major crop acreage in Porter County, 1950–2001 [Indiana Agricultural Statistics Service, 2002].

for 18% of the watershed, combined. Deciduous forest covers 17% of the watershed (Figure 6).

The topography, surficial geology, soil development, and bedrock geology in the region were directly influenced by the advance and retreat of the Lake Michigan lobe of ice during the Wisconsinan glaciation [IDNR, 1994]. The bedrock deposits of the basin are from the Devonian age. These rocks consist of dolomite and limestone overlain by shale [Fenelon et al., 1994]. The unconsolidated deposits above the bedrock range from 150–200 feet thick in the watershed. The deepest unconsolidated unit is a dense, clay-loam till. In most of the watershed glaciofluvial deposits overlie the clay till. The glaciofluvial deposits consist of sand and gravel interbedded with clay [Fenelon et al., 1994]. In the northern portion of the watershed a surficial sand and gravel aquifer unit exists that is primarily recharged directly from precipitation. At higher elevations in the watershed this aquifer is discontinuous, overlain by surficial till, and recharged from the overlying till

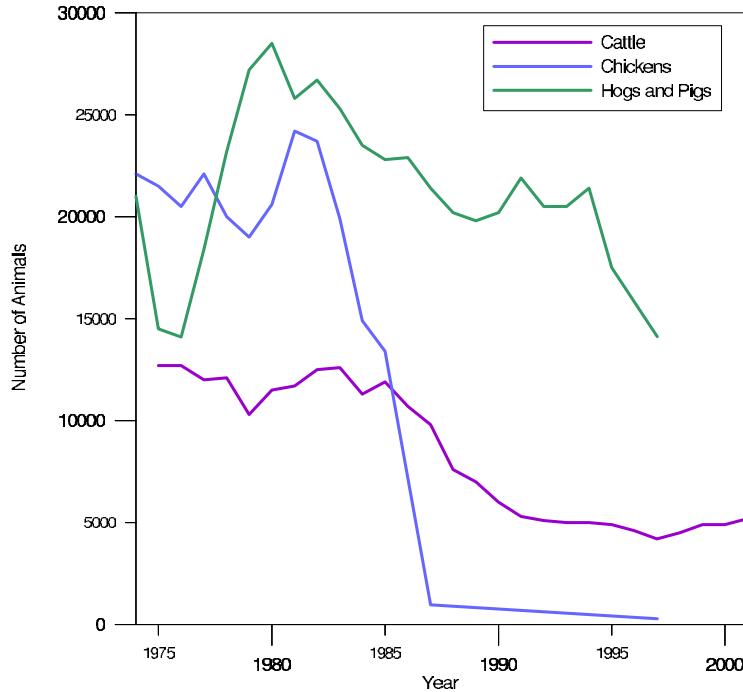


Figure 8: Livestock population in Porter County, 1975–2001 [Indiana Agricultural Statistics Service, 2002].

[Fenelon et al., 1994].

The continuous and discontinuous aquifer systems coincide with the two physiographic regions of the watershed. The two physiographic regions in the Salt Creek watershed are the Calumet Lacustrine Plain and the Valparaiso Morainal Area. The Valparaiso Moraine is characterized by some of the highest elevations in the watershed, ranging from 220-270 meters above sea-level in the southern section of the watershed near Valparaiso and Lake Louise (Figure 9). The northern, downstream section of the watershed has the lowest elevation (170-190 meters above sea-level). Low elevations are characteristic of the Calumet Lacustrine Plain. The surficial geology of northern Indiana follows regional lines similar to topography due to influence of the Wisconsinan glaciation (Figure 10). The watershed consists predominantly of mixed drift (34%), clay-loam to silt-loam till (31%), clay-loam to silt-loam (10%), and lake sand (10%).

The watershed is comprised of six soil associations, three of which dominate (Figure

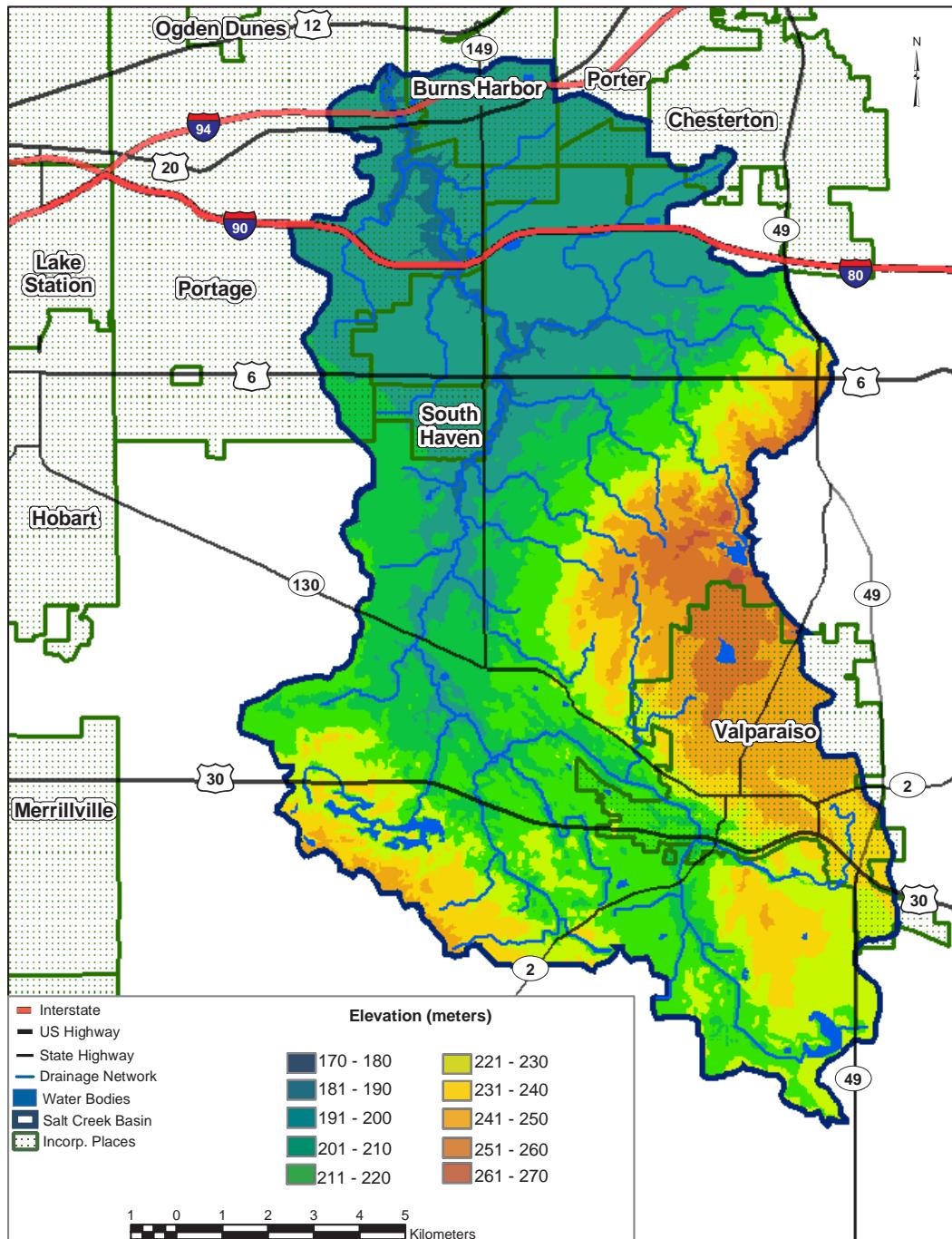


Figure 9: Physiographic relief in the Salt Creek basin [U.S. Geological Survey, 1999a].

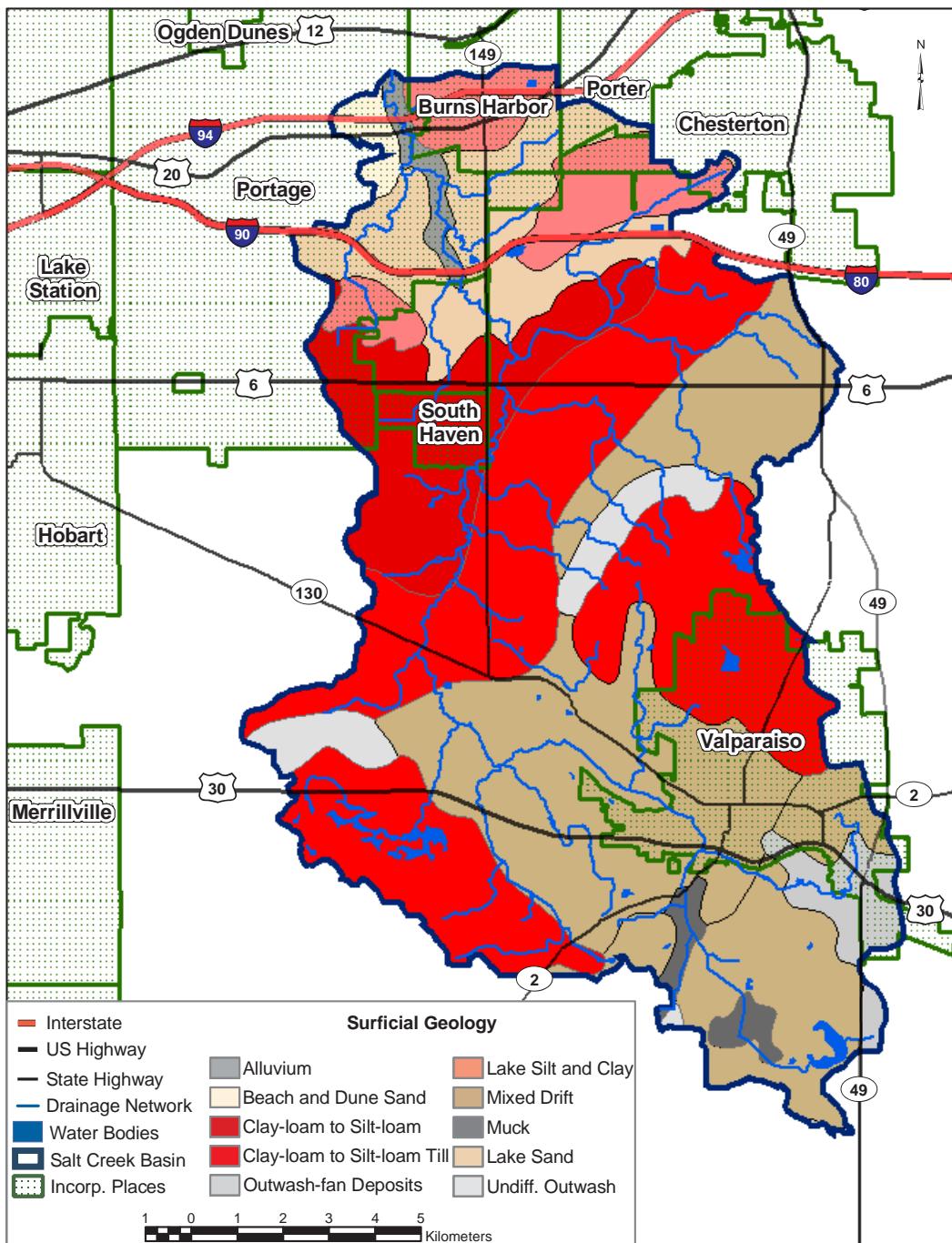


Figure 10: Generalized glacial geology in the Salt Creek basin [Gray and Walls, 2002].

11). The Blount-Glynwood-Morley series is the predominant soil association, occupying 55% of the watershed. These soils are deep or moderately deep to dense till. They are moderately to somewhat poorly drained soils “formed in a thin layer of loess and underlying till.” The Blount-Glynwood-Morley soils are typically found on ground moraines and end moraines like that of the Salt Creek watershed [U.S. Department of Agriculture, 2002]. The Rensselaer-Darroch-Whitaker soil series, which is associated with 18% of the watershed, consists of very deep, poorly and somewhat poorly drained soils. This association corresponds with the low elevations in the northern section of the watershed. The Rensselaer-Darroch-Whitaker soils are ”formed in silty and loamy sediments of lake plains, outwash plains, and till plains” [U.S. Department of Agriculture, 2002]. The Riddles-Elston-Oshtemo soil series is found in 15% of the watershed. This association consists of very deep, well drained soils “formed in loamy and sandy till” [U.S. Department of Agriculture, 2002]. The Riddles-Elston-Oshtemo soils are found south of Valparaiso and western portions of the watershed.

2.2 Hydrologic Setting

The climate of the Salt Creek region is classified as temperate continental, which describes an area with warm summers and cool winters [IDNR, 1994]. The mean monthly temperature in summer, based on records from 1971-2000, ranges from 69° to 73°F. The mean monthly temperature in winter ranges from 22° to 28° F (Figure 12) [Purdue University, 2002]. The close proximity of Lake Michigan causes the vicinity to have increased amounts of snowfall in winter. The Salt Creek watershed receives approximately 50 inches of snow in an average winter [IDNR, 1994]. The average annual precipitation is 40 inches, with the heaviest rains occurring in the spring and summer months (Figure 12). Approximately 70% of the rainfall is lost to evapotranspiration, leaving about 12 inches of surplus for the watershed’s surface water and groundwater supply [IDNR, 1994].

Stream order is a common stream classification system which helps describe a river’s size and basin area; the greater the stream order, the greater the size and basin area [Allan, 1995]. Using this system, Salt Creek is a fourth order stream. The USGS maintained a stream gage near McCool, Indiana (Figure 13), from 1945-1991. A flow-duration curve (Figure 14) was developed with daily values from the period of record. A flow-duration curve shows the percent of time that a specified discharge was equaled or exceeded. From the flow-duration curve, the 20-to-90 percent flow-duration ratio can be calculated to indi-

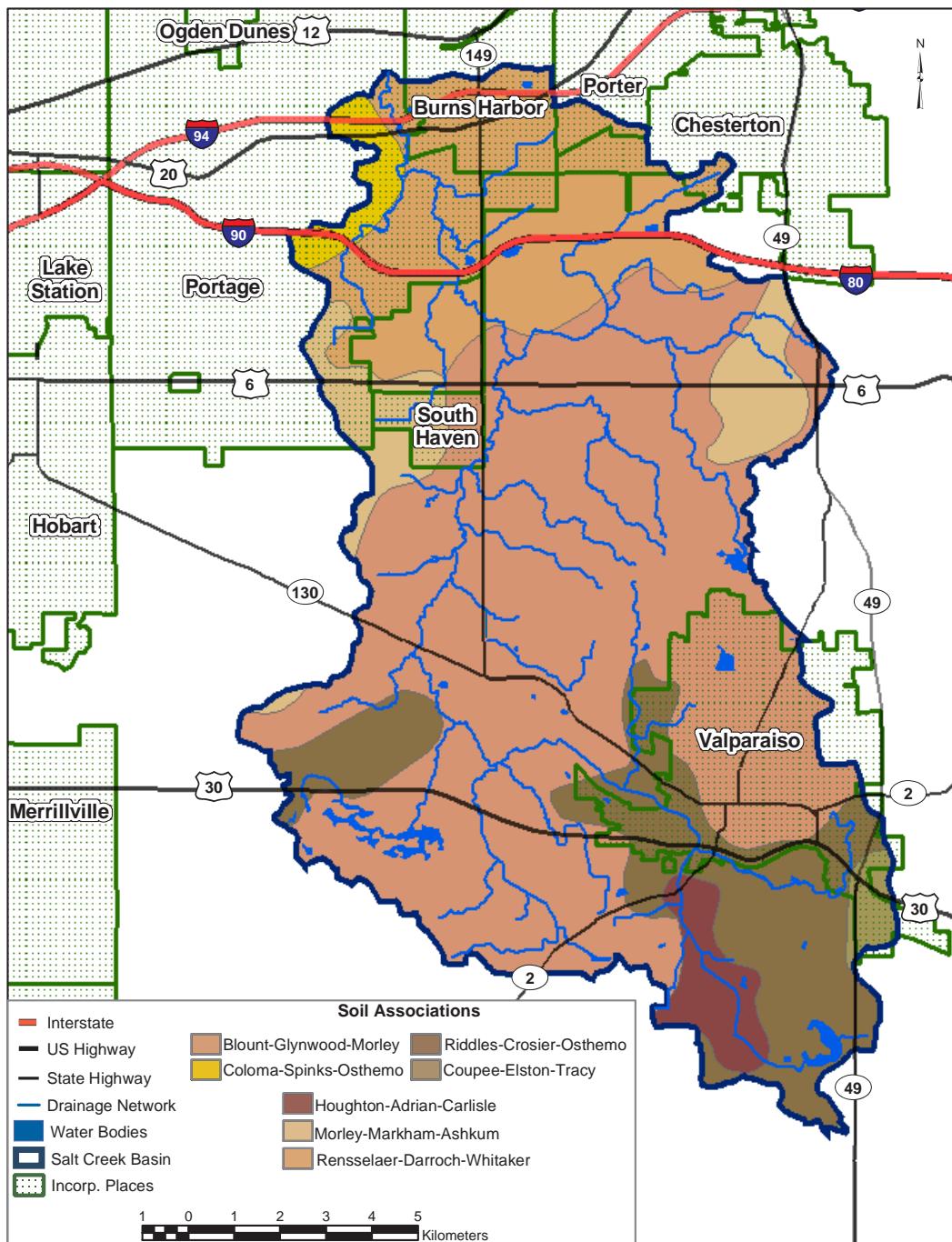


Figure 11: Major soil regions in the Salt Creek basin [U.S. Department of Agriculture, 1994].

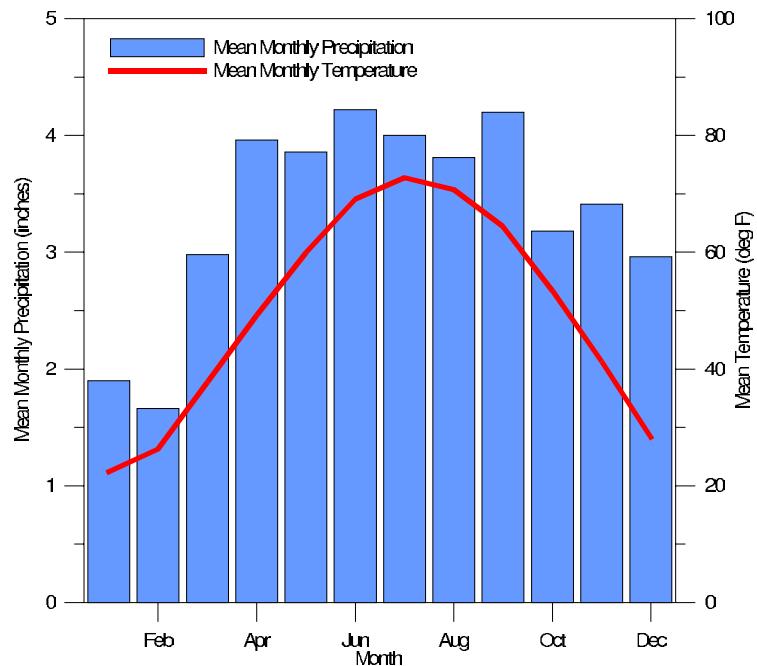


Figure 12: Mean temperature and precipitation in Valparaiso, Indiana, 1961–1990 [Purdue University, 2002].

cate streamflow variability. The 20-to-90-percent flow-duration ratio is a numerical index that describes the slope of the middle portion of the flow-duration curve [IDNR, 1994]. It reflects not only flood-attenuating factors, but also the relative component of stream flow due to base flow [IDNR, 1994]. The low 20-to-90 percent flow-duration ratio for Salt Creek, 3.0, indicates that the stream has high base flow. This is indicative of the surficial sand and gravel aquifer in the lower region of the watershed. The aquifer absorbs precipitation in the watershed during wet weather, dampening the high flows, but can also release water to the stream in times of dry weather, maintaining high base flow. This enables Salt Creek and other streams which flow through the Valparaiso Moraine to have some of the highest sustained low flows relative to drainage area in the state [IDNR, 1994]. The average discharge of Salt Creek is 76.6 cfs^1 and the minimum daily discharge is 10 cfs . The lowest 7-day average flow which occurs (on average) once every 10 years (7Q10 flow) is 19 cfs at the McCool stream gage [Fowler and Wilson, 1996]. The mean monthly flows for Salt Creek

¹Cubic feet per second

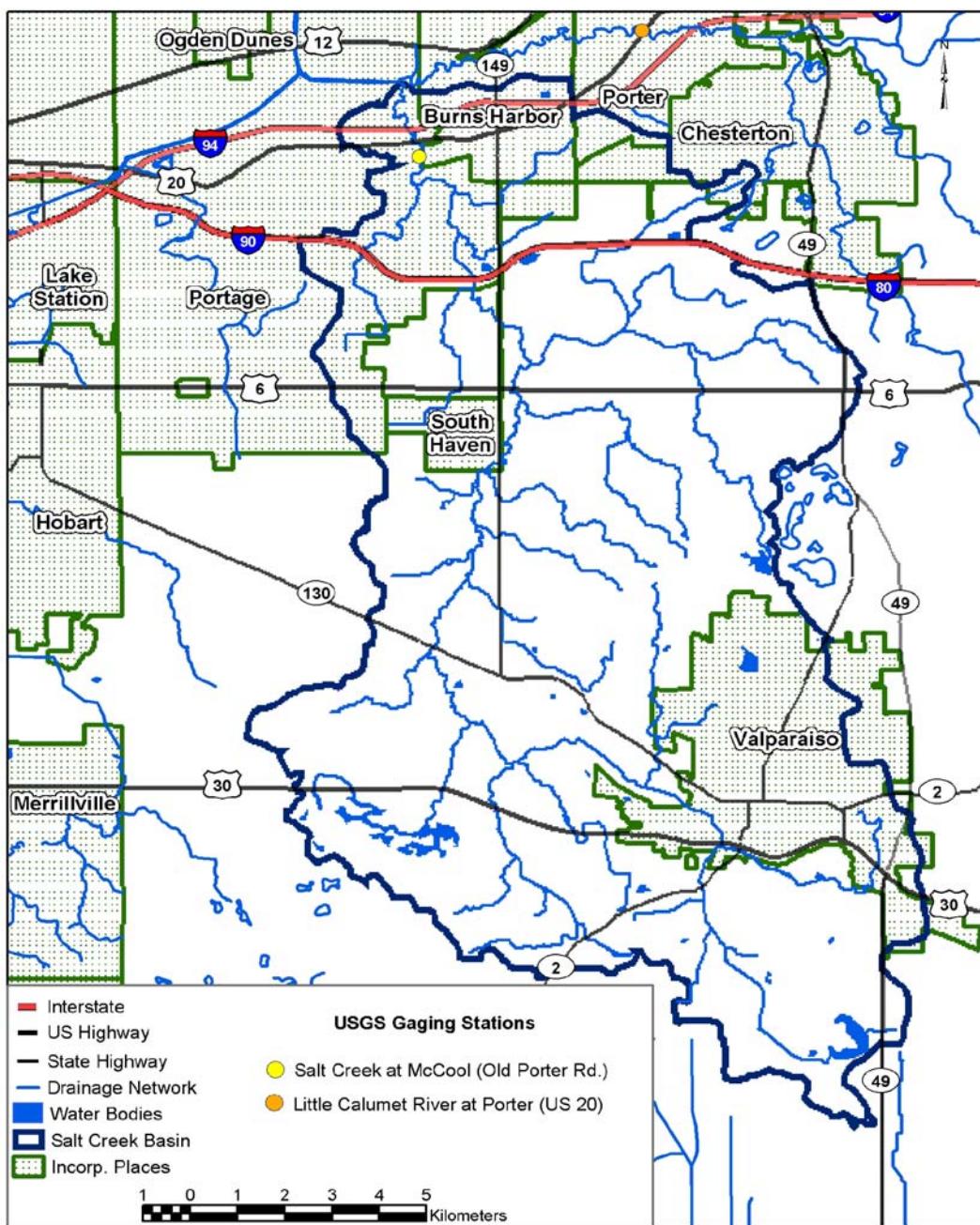


Figure 13: Location of USGS stream gages.

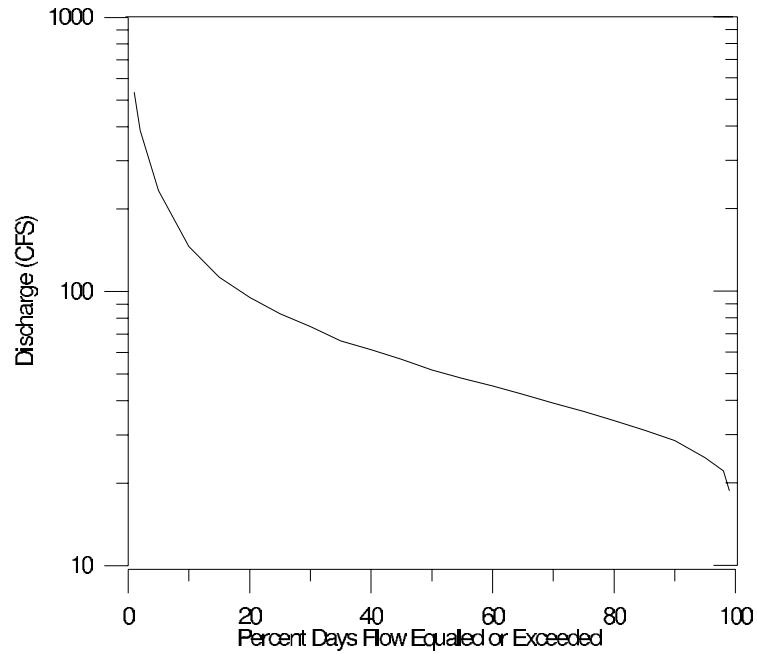


Figure 14: Flow–duration curve for Salt Creek.

are shown in Figure 15. The mean flows show a pattern typical to Midwestern streams; flows are highest in March and April and lowest in August and September.

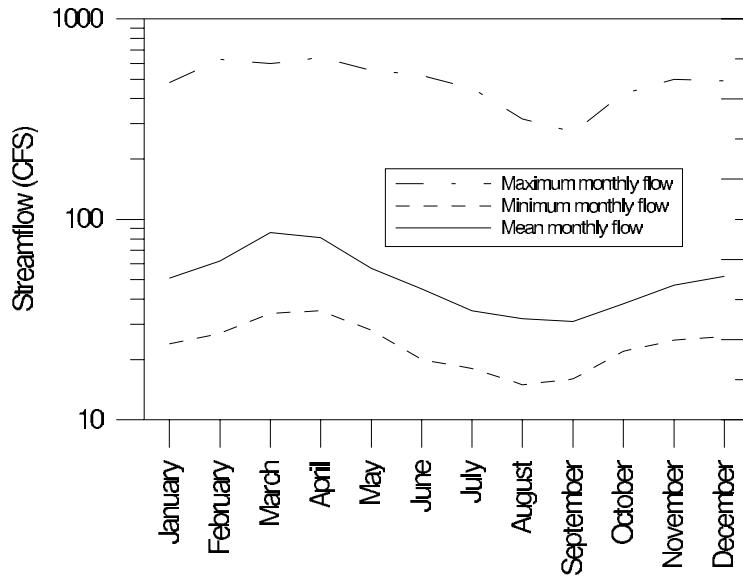


Figure 15: Mean monthly flows in Salt Creek.

3 Water-Quality Data

3.1 Data Inventory and Assessment

Existing water-quality data sets that were potentially relevant to development of a Salt Creek TMDL were identified, compiled, and organized. The data sets were evaluated based on QA/QC pedigree. Data sets that were deemed acceptable were collected and analyzed using the State's Quality Assurance Project Plan (QAPP) [IDEM, 1999]. Data sets were also deemed acceptable if the data was collected and analyzed in a manner comparable to the State's procedures and were approved by the State. The QAPP classifies data into three categories:

1. Enforcement data – All data meet all QC checks. The most stringent category.
2. Acceptable data – Possess scientific and statistical integrity and are suitable for decision making.
3. Estimated data – Are not suitable for enforcement or decision making, but may be appropriate for planning and identifying possible contaminant levels.

Six data sets that included results for *E. coli* measurements in the Salt Creek basin were compiled and evaluated (Table 2). No other data sets with *E. coli* results in the basin were identified. The Porter County Health Department (PCHD) collects bacteria samples for the purpose of evaluating complaints of failed septic systems, but the data are not maintained in a fashion that would make them usable.

The State *E. coli* standards specify concentrations determined specifically by membrane filtration. In short, membrane filtration entails filtering a water sample through a membrane that retains the bacteria. After filtration, the membrane containing the bacteria is placed on a selective medium and incubated. A direct count of *E. coli* in water is determined by the volume of water filtered and the number of colonies that grow on the surface of the membrane [U.S. EPA, 2000]. In January, 2000, the State approved the use of Method 9223-SM Enzyme Substrate Coliform Test (also known as Colilert) as a method of analysis for *E. coli* to evaluate waters for full contact recreational uses. The Colilert Test does not utilize membrane filtration. Instead, water samples are mixed directly with substrates and incubated. If *E. coli* are present, enzymes produced by the organism react with the substrate and cause the sample to exhibit florescence [APHA, 1992]. A sample concentration can be enumerated by traditional serial dilutions or by comparison to standards.

With the exception of one year of data collected by the Non-point Source Monitoring Project, all six data sets were deemed acceptable for use in development of an *E. coli* TMDL for Salt Creek. A brief description of each data set follows.

Fixed Station Monitoring Program

IDEM's Assessment Branch maintains a network of around 160 targeted sampling sites statewide [IDEM, 2001]. The program serves a variety of purposes including NPDES permitting, source-water monitoring, and trend analysis. The sites are located on the main stem of major rivers throughout the state. Sites are sampled once per month for a variety of parameters, depending on the site. The results represent a range of hydrologic conditions. Two active Fixed Stations are located within the Salt Creek basin (Figure 16). Site LMG050-0006 is located at the mouth of the basin, near the confluence with the Little Calumet River. Site LMG050-0007 is located off State Road 130, downstream of the Valparaiso Sewage Treatment Plant. Samples for *E. coli* have been collected at the two Fixed Stations since 1990. Results for *E. coli*, chemical parameters, and field measurements from the two Fixed Stations are shown in Table 3 of the Supplemental Data section. Samples

Table 2: Water-quality data sets from the Salt Creek watershed.

Collecting Organization	Project	Description	Method	QC Category
IDE�	Fixed Station Monitoring Program	Long-term monthly monitoring at two fixed sites, 1990–2001	MF, 1990-2000 Colilert, 2000-2001	Acceptable
IDE�	Statewide <i>E. coli</i> Monitoring Project	Sampling to evaluate 5-sample geometric mean at two sites during recreation season in 2000.	Colilert	Acceptable
IDE�	2000 Salt Creek Assessment	Sampling to evaluate 5-sample geometric mean at 24 sites in 2000	Colilert	Acceptable
IDE�/Lake Michigan Interagency Task Force	Non-Point Source Monitoring Project (NPSMP)	Sampling to evaluate non-point source effects at 12 sites during recreational season, 1999-2002	MF, 1999 Colilert, 2000-2002	1999, Estimated 2000-2002, Acceptable
Lake Michigan Interagency Task Force	Point Source Committee	Weekly samples at 8 sites during recreational season, 1997–1999	MF	Valparaiso, Acceptable PCHD, Acceptable
NPDES Facilities	Permit Requirement	Monthly discharge monitoring reports, 1989-2002	Varied	Acceptable

[IDE�, Indiana Department of Environmental Management; MF, Membrane Filtration; NPDES, National Pollution Discharge Elimination System]

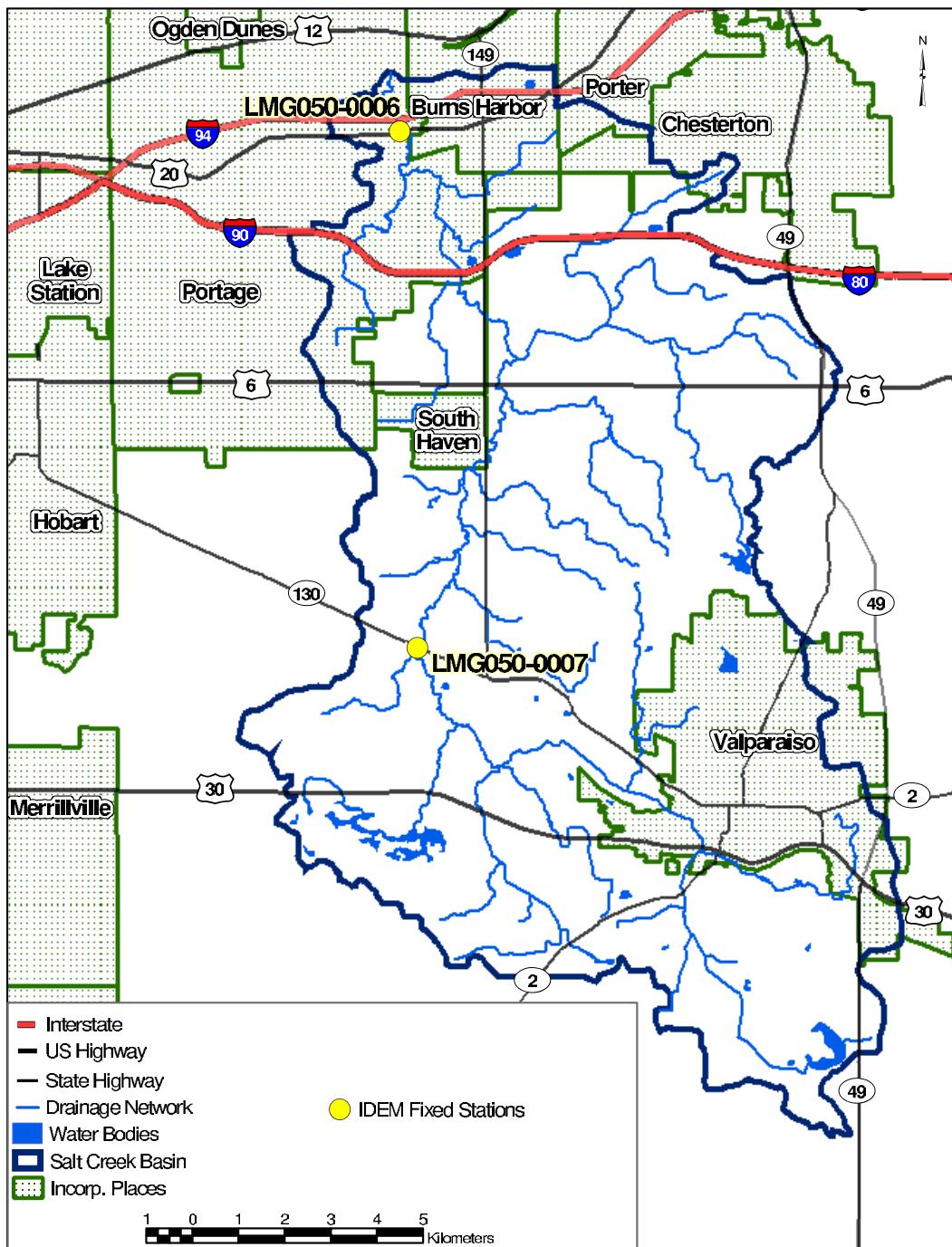


Figure 16: Locations of IDEM fixed stations in the Salt Creek basin.

collected and analyzed in recent years for the Fixed Station data have followed the State's QAPP. Samples collected in prior years have been deemed acceptable by the State.

Statewide *E. coli* Monitoring Project

The Statewide *E. coli* Monitoring Project is part of the IDEM Assessment Branch Bacteriological Sampling Program [IDEM, 2001]. The project was initiated in the spring of 2000 as part of a USEPA 319 grant. Samples are collected for *E. coli*, coliforms, and physical parameters. The results are used to make comprehensive assessments of surface water-quality in order to determine stream standard attainment for recreational use [Hirschinger, 2002]. Two sites were sampled in the Salt Creek basin (Figure 17). One site coincides with the Fixed Station at the mouth of the basin (LMG050-0006). The other site is located off a county bridge, north of State Road 130 (LMG050-0009). Samples were collected five times within a thirty day period (July and August, 2000) so that a geometric mean could be evaluated against the respective standard. Results from the Statewide *E. coli* Monitoring Project are shown in Table 4 of the Supplemental Data section. The samples were collected and analyzed according to the State's QAPP and are acceptable.

Salt Creek Assessment for the Development of TMDL

IDEM surveyed Salt Creek in 2000 to reassess the impaired water body and collect data for TMDL modeling purposes. Samples were collected at twenty-four locations (Figure 17) for *E. coli* and physical parameters. The sites are distributed along the length of the main stem and include most of the major tributary creeks. Five samples were collected at each site within a thirty day period between September and October. Results from the assessment are shown in Table 4 of the Supplemental Data section. The samples were collected and analyzed according to the State's QAPP and are acceptable.

Lake Michigan Interagency Task Force/Non-point Source Monitoring Project

The Interagency Task Force on *E. coli* (Task Force) was initiated in 1996 to address the issue of beach closings along Indiana's Lake Michigan shoreline. The Task Force consists of technical experts from state, local, and federal agencies and strives to address the issue with a comprehensive approach. The Non-point Source Committee launched the Monitoring Project (NPSMP) to study bacteria levels in the headwaters of tributaries to Lake

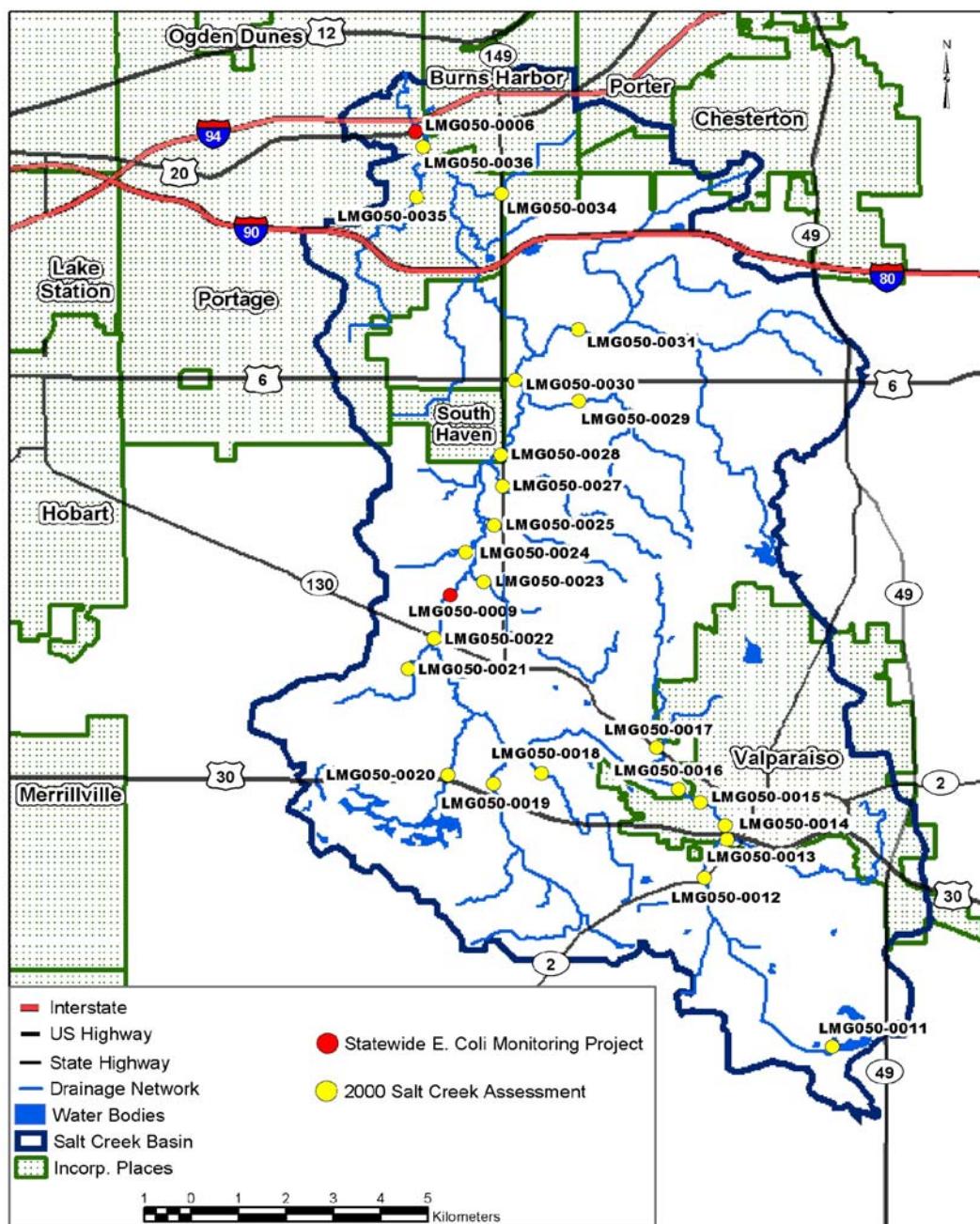


Figure 17: Locations of sampling sites for IDEM special studies in the Salt Creek basin.

Michigan. The project was designed to identify streams affected by non-point sources that may be contributing significant loads of bacteria to the lake. Samples were collected at 12 sites during the recreational season between 1999 and 2002 [Forsness et al., 2001, Clendaniel and Luther, 2001]. Most of the sites are located on tributaries to Salt Creek (Figure 18). Samples were analyzed for *E. coli* and a limited number of physical parameters. Results from the assessment are shown in Table 5 of the Supplemental Data section. With the exception of the 1999, the data were collected and analyzed according to a Quality Assurance Plan that was approved by the U.S. Environmental Protection Agency [Luther, 2000]. The data are acceptable with the exception of data collected in 1999. The 1999 data are considered estimated.

Lake Michigan Interagency Task Force/Point Source Committee

The Task Force initiated the Point Source Committee in 1997 to evaluate the relationships between point source discharges and bacteria levels in Lake Michigan and its Indiana tributaries. Emphasis was placed on researching the conditions that lead to beach closures. The Point Source Committee established a Volunteer Sampling Network comprised of representatives of industry and government. Network members in the Salt Creek watershed include the City of Valparaiso and the Porter County Health Department. In addition to in-stream samples, the work included lake samples, rainfall measurements, and CSO measurements [Kuss, 2001]. Eight sites were located in the Salt Creek basin (Figure 19), mostly along the main stem. Some preliminary sampling was conducted in 1997. However, most of the sampling for this effort was conducted in the Salt Creek basin in 1998 and 1999. Samples were collected on an approximately weekly basis from mid-April to November. Water-quality results are shown in Table 6 of the Supplemental Data section. CSO overflows measured in 1998 are shown in Table 7. The time-series generated from the weekly samples combined with daily rainfall and CSO measurements provide a unique opportunity to examine cause and effect relationships in the watershed.

Early in the sampling program, the Task Force produced a document that established standard operating procedures for the collection and analysis of *E. coli* [ITF, 1999]. The City of Valparaiso collected and analyzed samples in conjunction with their compliance monitoring program. Compliance monitoring data must meet the standards of Enforcement as classified by the State's QAPP. Enforcement data meet the State's most stringent QA/QC standards. The samples collected by the Porter County Health Department were analyzed

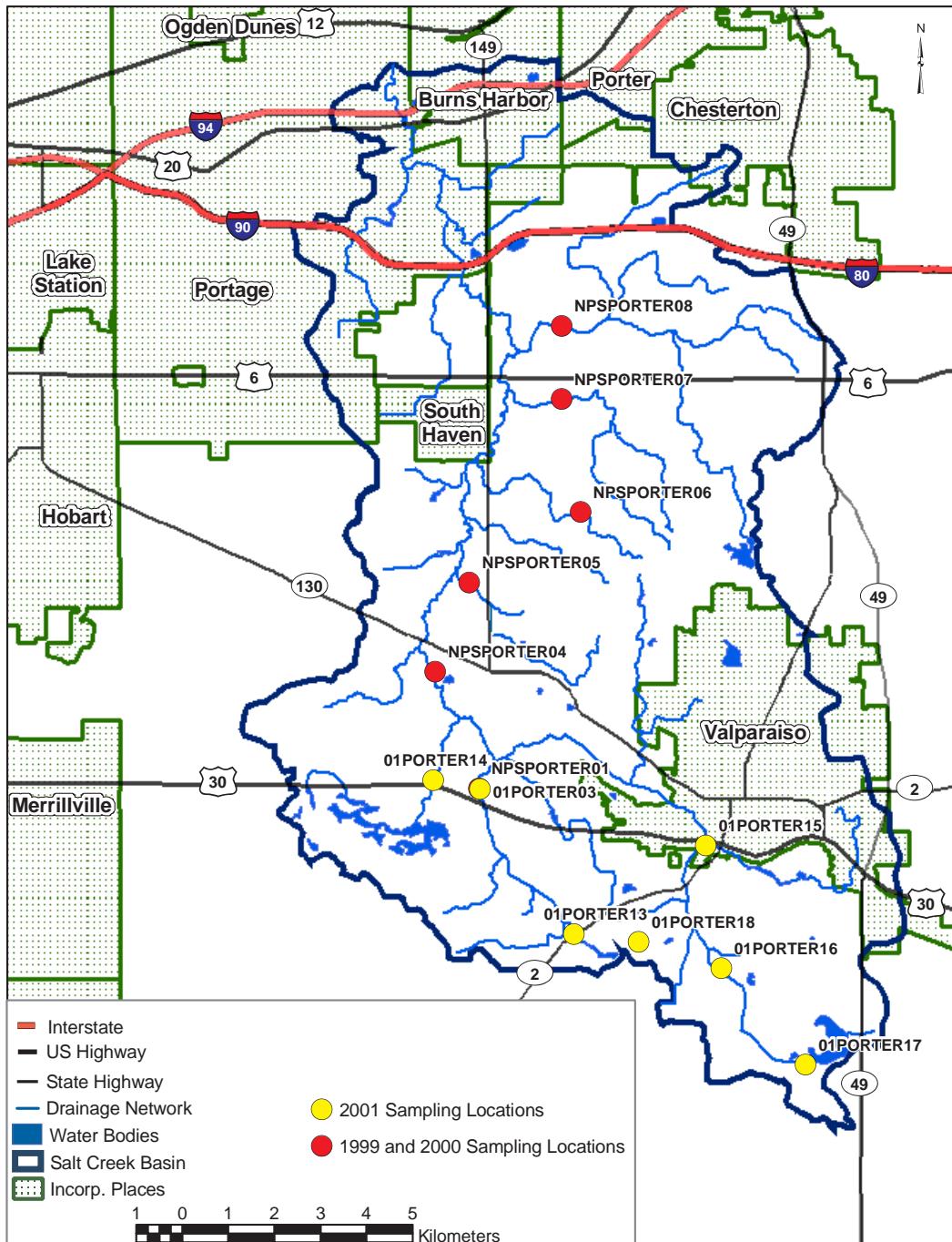


Figure 18: Locations of sites in the Salt Creek basin sampled for the Lake Michigan Interagency Task Force/Non-point Source Committee.

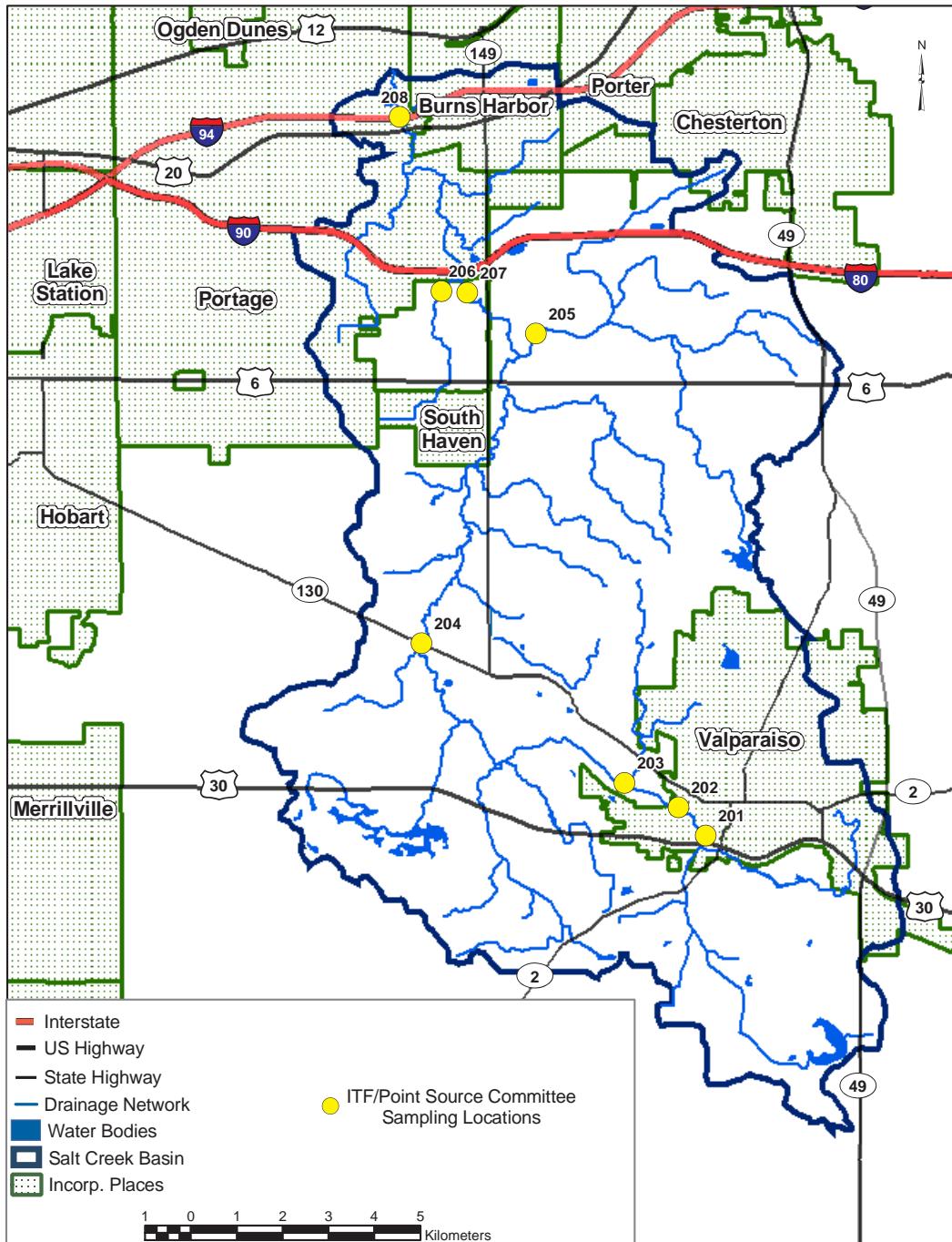


Figure 19: Locations of sites in the Salt Creek basin sampled for the Lake Michigan Interagency Task Force/Point Source Committee.

by the Laporte County Laboratory and were deemed acceptable based on the Lab's response to an IDEM quality control questionnaire.

Discharge Monitoring Reports from NPDES Facilities

Ten facilities with the potential to contribute *E. coli* to the streamare located in Salt Creek watershed (Table 1 and Figure 3). IDEM issues permits to each of these facilities and enforces compliance. The NPDES facilities analyze the required number of samples (Table 1) for each permitted parameter. Because the samples are collected and analyzed for compliance measures, the data meet the State's standards for Enforcement data. Permitted facilities must compile and submit a discharge monitoring report to IDEM every month. Discharge monitoring report data from 1989-2002 for all relevant facilities in the watershed are shown Tables 8, 9, and 10.

3.2 Data Analysis

The water-quality data sets deemed "acceptable" for the project were analyzed to 1) confirm impairments and 2) determine the nature of *E. coli* loading in the Salt Creek basin. Results from this analysis will help guide the higher level, more complex analyses that will follow. The goal of the analysis was to identify the temporal, spatial, and hydrologic factors associated with the impairment, as well as gain insight into possible sources, relative magnitudes, and loading characteristics. By understanding and defining the critical conditions during which the designated use is not supported, we can begin to address the potential causes of impairment and use the information to guide subsequent work toward development of a TMDL for Salt Creek.

3.3 Magnitude and Temporal Characteristics

In the early stages of TMDL development it is important to understand when loading occurs and the relative magnitude of impairment. A good understanding of the magnitude and timing of impairment leads to insight about possible sources. The data sets generated by the two Fixed Stations maintained by IDEM (Figure 16) provide valuable information with respect to *E. coli* loading in Salt Creek. The data, collected approximately every month since 1990, supply a long-term record of conditions in the watershed. In addition, the measurements reflect *E. coli* concentrations over a range of climatic and hydrologic conditions

in the watershed throughout the year.

Fixed Station Monitoring Data

Figure 20 shows the full record of *E. coli* concentrations measured at the two Fixed Station monitoring sites (Figure 16). The single-sample standard for *E. coli* ($235\text{CFU}/100\text{m}^2$) is included on the graph for reference. Many of the samples measured at the two monitoring sites over the period of record exceed the standard. Some of the measurements are well over an order of magnitude higher than the standard. More exceedances were recorded at upstream site LMG050-0007 (74%) than at the basin outlet at site LMG050-0006 (66%). The median concentration of site LMG050-0007 ($500\text{CFU}/100\text{ml}$) was higher than site LMG050-0006 ($430\text{CFU}/100\text{ml}$).

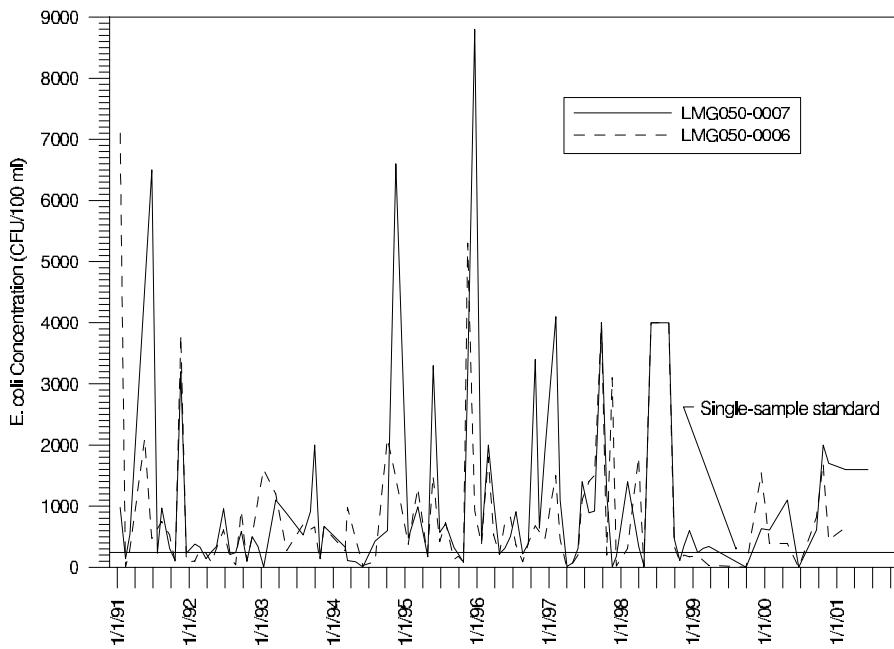


Figure 20: *E. coli* concentrations measured at IDEM fixed stations, 1991–2001.

Figure 21 shows the Fixed Station monitoring data by month. Again, the single-sample standard for *E. coli* is included on the graph for reference. The distributions for the two sites are remarkably similar. There is not a strong relationship between exceedances and

²Colony forming units per 100 milliliters

month; exceedances occur in all months. However, in general, the the lowest percentage of exceedances were observed at both sites in the months of October and April.

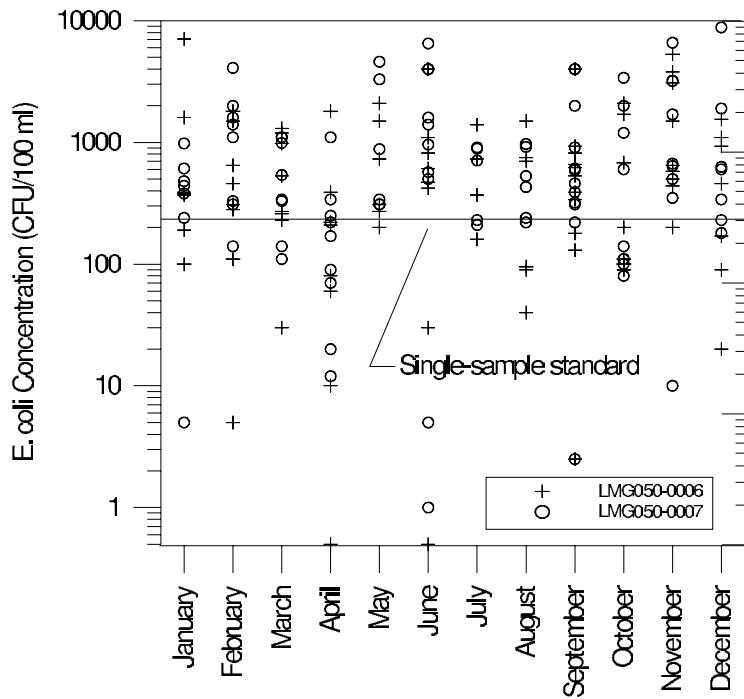


Figure 21: *E. coli* concentrations measured at IDEM fixed stations, by month, 1991–2001.

Kansas Curve Analysis

The Kansas Department of Health and Environment developed a simple methodology for initial evaluation of bacteria impairments [KDHE, 2002]. The Kansas TMDL Curve Method (the Method) was developed to facilitate rapid implementation of phased TMDLs when relatively little data existed and when court imposed time limits did not permit extensive data collection and simulation modeling. While IDEM is not under the same constraints in the Salt Creek basin, the Method can function as an effective tool for exploratory data analysis and can provide direction so that TMDL development is completed in a sound and cost-effective manner.

The method involves transforming the flow-duration curve (Figure 14) into a load-duration curve by multiplying the flow values along the flow-duration curve by the nu-

meric water-quality standard. This simple conversion results in a curve that represents the water-quality standard as a continuum across the flow conditions observed at the gaged site. Instantaneous bacteria loads calculated from in-stream values measured near the gage can be plotted on the load-duration curve with the known flow at the time of the sample.

The long term record of *E. coli* concentrations measured at the Fixed Station site LMG050-0006 (Figure 20) are ideal for the Kansas Curve Method, with one exception: the flow in the creek at the time of sampling is unknown. The USGS gage in McCool was retired in 1991. This shortcoming makes the calculation of an instantaneous load problematic. However, the flow can be estimated in a manner that is acceptable for this cursory level analysis. Site LMG050-0006 is located near the retired USGS stream gage at the mouth of the basin in McCool, Indiana. An active USGS gage is located nearby in Porter on the Little Calumet River (Figure 13). By regressing daily flow values at the McCool gage with daily flow values at the Porter gage for a common period of record (1970-1991), we can establish a relationship between the two gages so that flows can be estimated in Salt Creek for the period of interest. The estimated flows can then be associated with the *E. coli* concentrations measured at site LMG050-0006. Figure 22 shows the relationship between flows at the two gages and the resulting regression line.

Daily flow values estimated from the Porter gage were multiplied by the *E. coli* concentrations measured at site LMG050-0006 to estimate instantaneous loads for the load-duration curve analysis. Figure 23 shows the estimated loads plotted on the load-duration curve for Salt Creek. By plotting *E. coli* loads on the load-duration curve we can visualize the data with respect to the standard, the flow, and the season. In its simplest function, the instantaneous loads plotted on the load-duration curve provide a synopsis of the impairment. Loads plotting above the curve represent exceedances of the standard; loads plotting below the curve represent compliance with the standard. The graph also provides a visual representation for assessing the magnitude, duration and trends in non-compliance.

Figure 23 shows a large percentage of measurements as violations. Sixty-six percent of the *E. coli* samples collected at the site between 1991 and 2001 were above the one-time standard of $235\text{ CFU}/100\text{ ml}$. The curve also helps identify critical conditions and the nature of the sources contributing to impairment. In addition, the locations of measured bacteria counts on the graph can indicate if water-quality violations are related to specific flow conditions. This concept can be taken one step further, permitting inferences about the sources of critical loading. Point sources generally have the greatest impact when flow

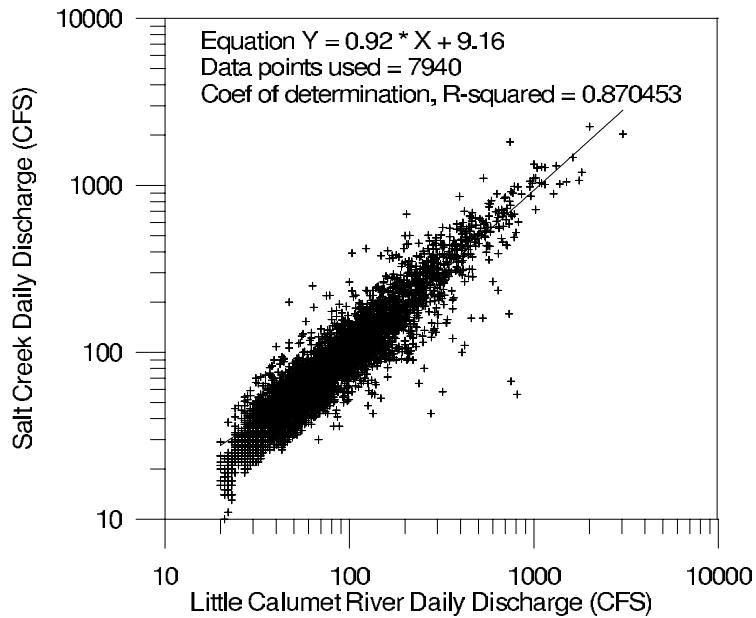


Figure 22: Relationship between daily flow values at USGS McCool gage on Salt Creek and nearby Porter gage on the Little Calumet River, 1970–1991.

is low (i.e., when the dilution capacity of a water body is low). Loads which plot above the curve in the flow regime defined as being 85-99 percent of the time can generally be attributed to point sources. Non-point source loading is generally event-driven and associated with higher flows. Non-point source effects are indicated by loads plotting above the curve in the 10-70 percent load exceedance. A combination of sources is attributed to measured loads at 70-85 percent exceedance. Most of the violations shown in Figure 23 fall in the high to middle range of flows (2-60 percent flow duration), indicating that *E. coli* concentrations above the standard in Salt Creek are likely due to non-point sources or other event-driven inputs such as storm sewer discharges and CSOs.

The load-duration curve can also be constructed with *E. coli* data grouped by season (Figure 24). By segregating the measured bacteria counts by season, seasonal components of critical loading can be discerned. The highest percentage of exceedances occur in the spring, summer, and winter. In addition, most of the spring and winter violations occur at low durations (high flows), whereas summer and fall exceedances are distributed across the flow regime.

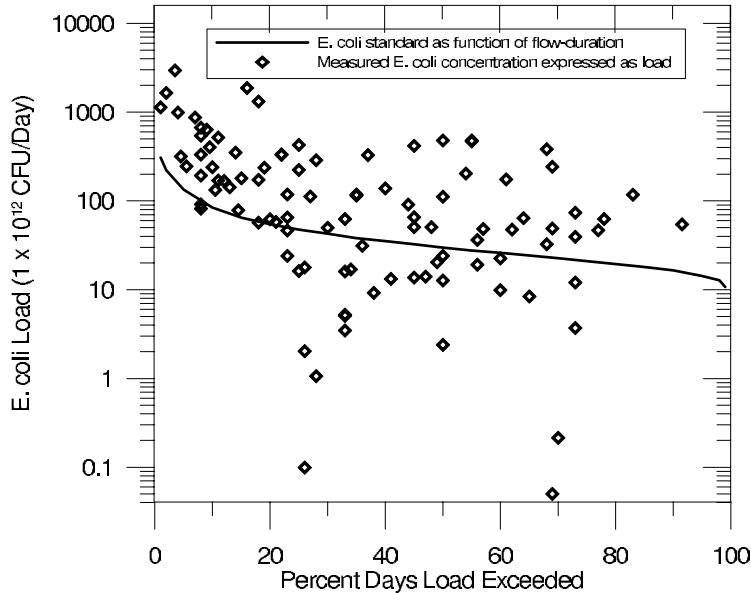


Figure 23: Load–duration curve computed from flow and *E. coli* concentrations measured in Salt Creek. Flow statistics were computed with data from USGS McCool gage, 1970–1991. *E. coli* data from IDEM Fixed Station measurements at U.S. Highway 20 in Portage, IN, 1991–1999.

Point Source Monitoring

As of October 2001, the State requires CSO managers to monitor and report overflow volumes. The CSO Monitoring Reports for Valparaiso are shown in Table 11. Prior to the new requirement, little information was known about CSO overflow volumes. One exception is the work of the Task Force/Point Source Committee in 1998. The Task Force/Point Source Committee monitored overflow volumes as well as concentrations in Salt Creek and two tributaries.

The Task Force/Point Source Committee concluded that adverse impacts of CSO discharges are most prevalent in the Little Calumet/Burns Waterway system [Kuss, 2001]. The Committee further concludes that the work “clearly and conclusively illustrates that Beach closures/advisories occur only following rainfall events, and do not occur during extended periods of dry weather. Additionally, the results clearly and conclusively illustrate that there is a greater propensity for beach closures/advisories to occur when rainfall amounts

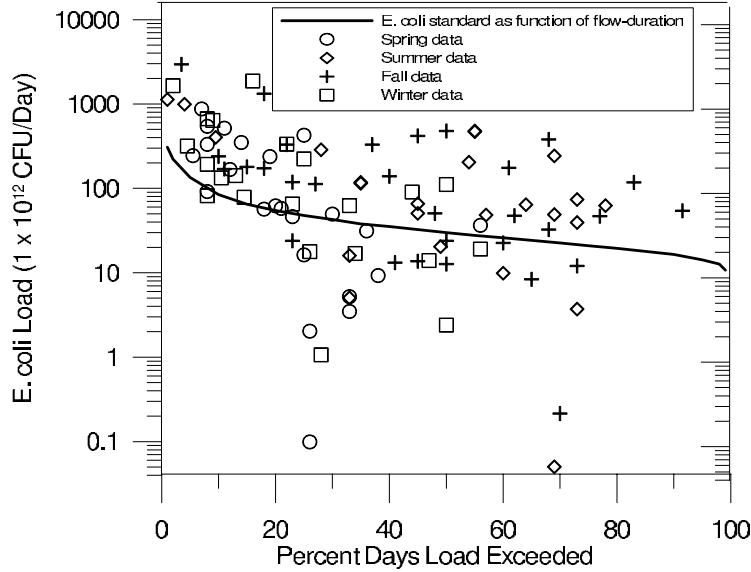


Figure 24: Load–duration curve computed from flow and *E. coli* concentrations measured in Salt Creek, organized by season.

are large enough that CSO discharges occur.”

The effects of rainfall and CSO overflows on Salt Creek can be seen in the data collected by the Point Source Committee during the 1998 recreational season. Figure 25 shows weekly *E. coli* concentrations measured at the outlet of the basin (site 208, Figure 19). The measured concentrations are shown in relation to precipitation amounts and CSO overflow volumes recorded daily at Valparaiso. Note that the in-stream samples were collected weekly regardless of rainfall or CSO events. The effect is a difference in resolution between the data sets. Sometimes the creek was sampled a day after a CSO overflow and sometimes it was sampled several days after an overflow. Therefore, the concentration measured in the creek does not necessarily represent the peak concentration after a CSO overflow. Despite the difference in resolution between the data sets, we see an increase in *E. coli* concentration at the basin outlet associated with each CSO overflow. The *E. coli* concentration at the basin outlet increased above the standard after rainfall events significant enough to cause a CSO overflow in Valparaiso. The *E. coli* concentration can be elevated even several days after a CSO overflow.

The conclusions drawn by the Point Source Committee for the entire Little Calumet/Burns

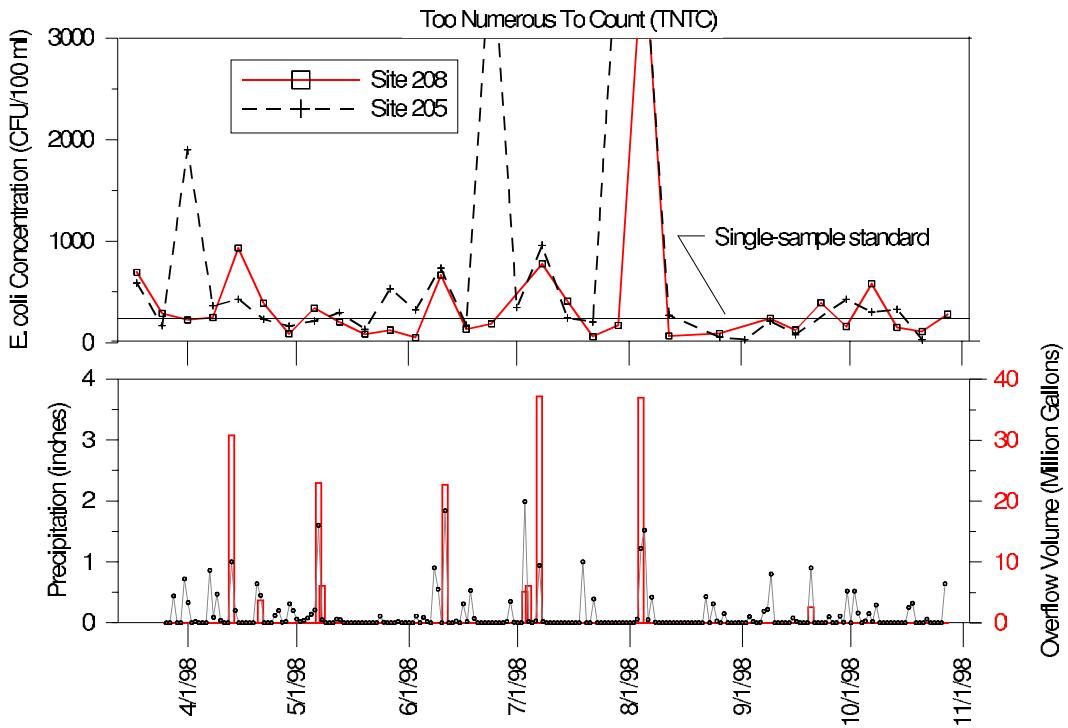


Figure 25: *E. coli* concentrations measured by Lake Michigan Interagency Task Force/Point Source Committee in 1998. Concentrations are shown for basin outlet (site 208) and Damon Run (site 205) in relation to precipitation and CSO overflow volume recorded at Valparaiso.

watershed are congruent with results in Salt Creek. However, the elevated concentrations at the basin outlet are not due entirely to CSO overflows. The work by the Point Source Committee did not specifically consider the effects of non-point source runoff and storm sewer discharges, sources that also can contribute significant loads of *E. coli* to the creek after a rain event. In addition to showing concentrations near the outlet of Salt Creek, Figure 25 shows the concentrations measured in Damon Run near the confluence with Salt Creek (site 205, Figure 19). There is no CSO in the Damon Run watershed, so the concentrations measured in Damon Run do not reflect the effects of a CSO. We can see that the concentrations in Damon Run were comparable to those found at the basin outlet (site 208, Figure 19). Sometimes the concentration was even higher in Damon Run than in Salt Creek. The same

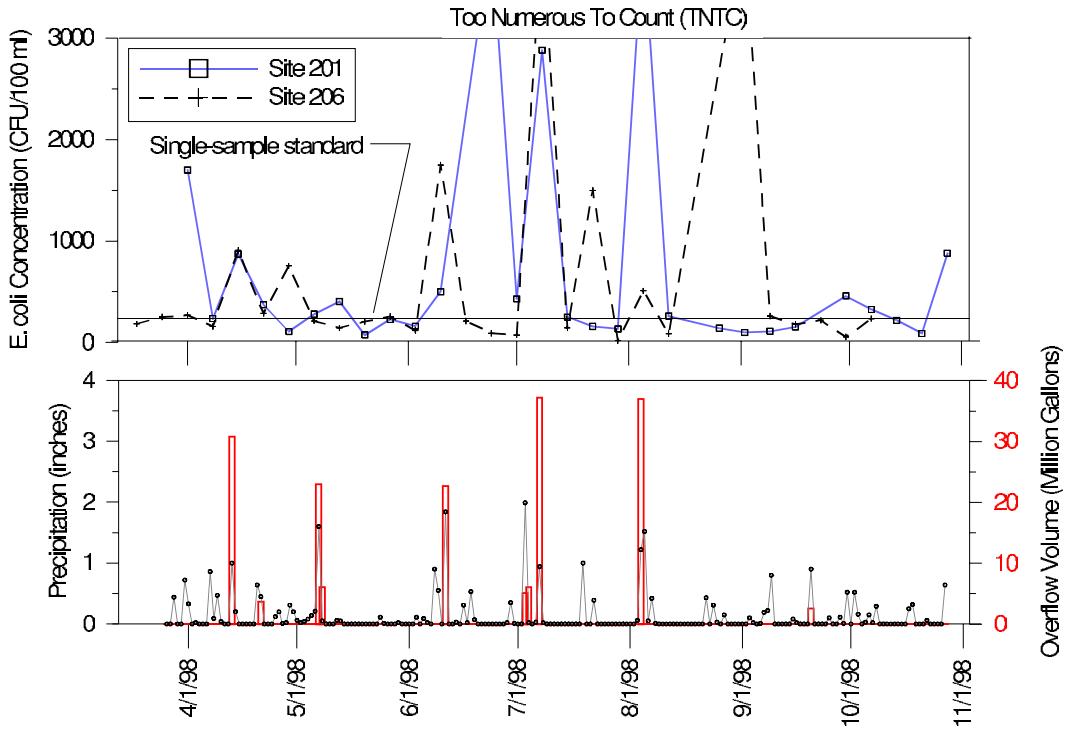


Figure 26: *E. coli* concentrations measured by Lake Michigan Interagency Task Force/Point Source Committee in 1998. Concentrations are shown for Salt Creek above Valparaiso (site 201) and Squirrel Creek (site 206) in relation to precipitation and CSO overflow volume measured at Valparaiso.

effect can be seen at two other sites without a CSO influence (Figure 26). Site 201 (Figure 19) is located on Salt Creek above Valparaiso. Site 206 (Figure 19) is located on Squirrel Creek, a tributary of Salt Creek near the basin outlet (Figure 2). Sites 201 and 206 both exhibit elevated concentrations associated with rain events. In some cases, the concentrations were elevated even though the rain event was not significant enough to cause a CSO overflow at Valparaiso. Clearly, elevated concentrations at the basin outlet are not entirely due to CSO inputs. Thus, non-point sources and other sources that are event-driven impact *E. coli* concentrations in the creek in addition to CSOs.

3.4 Spatial Characteristics

The long-term record at the Fixed Stations provides valuable information about concentrations over time. However, the Fixed Station data represent water integrated from large parcels of the watershed over a broad range of conditions. The Fixed Station data do not provide the spatial information that is crucial to solving the problems presented by TMDL development. Understanding where loading occurs is an early step to identifying critical sources. When analyzed together, several of the compiled data sets provide insight into the spatial characteristics of *E. coli* impairment in Salt Creek. The Statewide *E. coli* Monitoring Project, the 2000 Salt Creek Assessment, and the Task Force/NPSMP, all provide a snapshot of conditions in the creek and some of its tributaries during the recreational seasons of recent years.

The Statewide *E. coli* Monitoring Project and the Salt Creek Assessment are grouped together in Figure 17 and Table 4. The two data sets, collected in the same year with the same protocols, provide good spatial coverage of Salt Creek and select tributaries. Samples were collected to allow computation of a five-sample geometric mean. The geometric mean value provides a better representation of general conditions than a single sample. The results show *E. coli* concentrations elevated above the single-sample and the geometric mean standard along the entire length of Salt Creek as well as some of the tributaries (Figure 27). Some of the lowest concentrations were found in water exiting sewer outfalls and water just downstream of the outfalls. Both the Valparaiso (site LMG050-0015) and the South Haven (LMG050-0028) wastewater treatment outfalls had geometric mean concentrations below the respective standard. Most of the samples from the two outfalls also had concentrations less than the single-sample standard. The low *E. coli* concentrations from the outfalls is the result of disinfection activities required by the State during the recreation season (April through October). The lingering effects of disinfection can be seen in results from the sites upstream and downstream of the Valparaiso outfall. *E. coli* concentrations were elevated in the upper reaches of Salt Creek above the Valparaiso wastewater treatment outfall. Concentrations in the creek are still below the geometric mean standard at the site below the outfall. Apparently, the chlorinated water from the outfall is diluting the creek and effectively lowering the concentration of *E. coli* in Salt Creek.

In addition to the wastewater outfalls and the site below Valparaiso, the only other sites where concentrations were below the geometric mean standard were small tributaries. Beauty Creek in Valparaiso, Pepper Creek in the middle of basin, and Robbins Ditch near

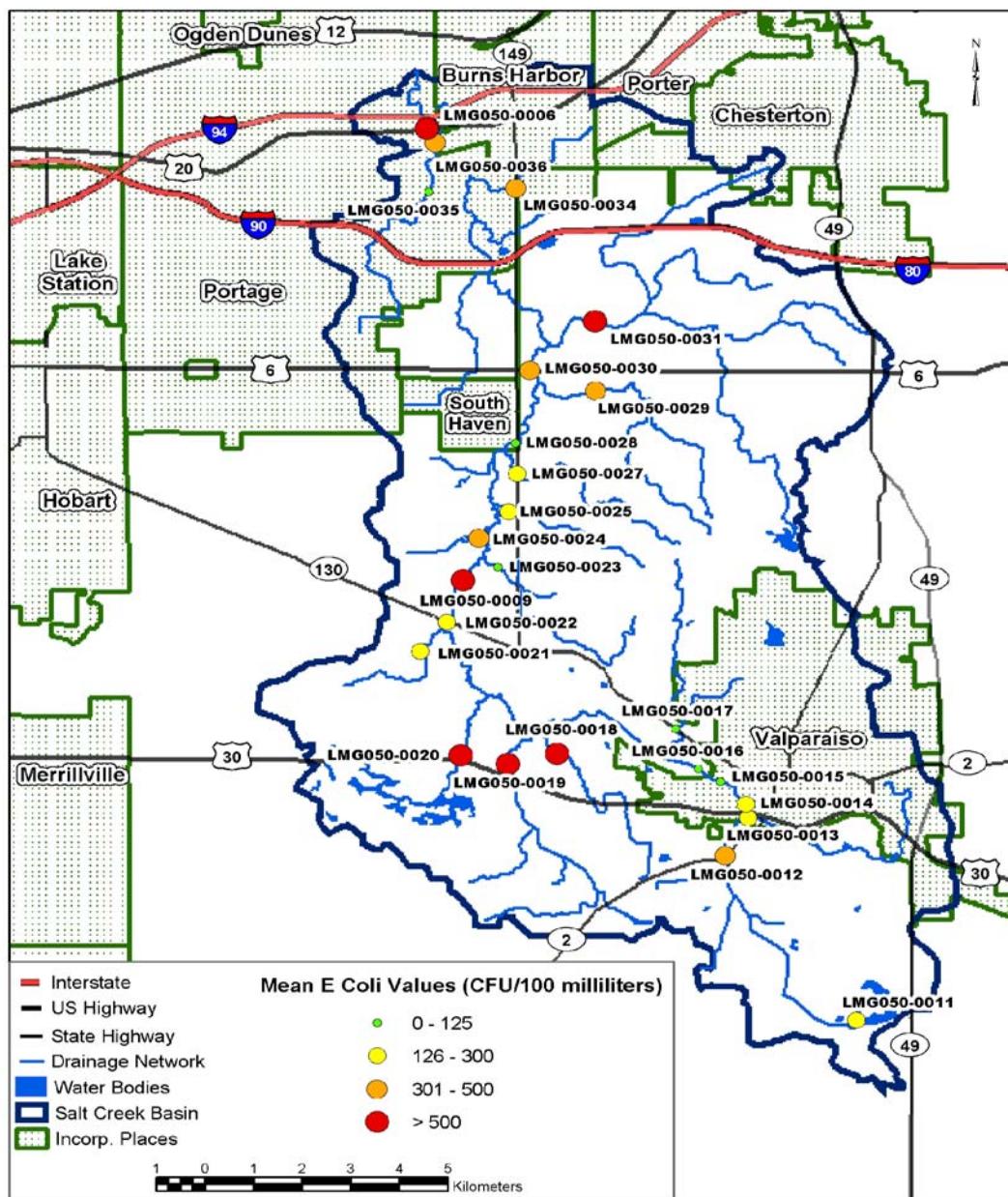


Figure 27: Five-sample geometric mean concentrations determined by IDEM special studies.

the basin outlet all exhibited relatively low *E. coli* concentrations. The geometric mean computed from the Pepper Creek samples was below the standard. Results from Robbins Ditch did not allow computation of the geometric mean; however, all four samples were less than the single-sample standard.

The highest concentrations were recorded in Salt Creek and two tributaries. The highest geometric mean recorded at all of the sites was from samples taken below Lake Louise. The second highest geometric mean was computed from samples collected at the Fixed Station site at the basin outlet, LMG050-0006. Other tributaries with geometric mean values greater than the standard include Damon Run, Clark Ditch, Gustafson Ditch, the creek draining Butternut Springs, and several unnamed tributaries (sites LMG050-0021, LMG050-0022, LMG050-0025, and LMG050-0029; Figure 27).

The NPSMP focused on streams potentially affected by non-point sources. The sites include some of the same tributaries sampled for the Salt Creek Assessment. Results from the NPSMP are congruent with most of the results from the Salt Creek Assessment. The NPSMP found elevated *E. coli* concentrations in Damon Run, Clark Ditch, the outlet to Lake Louise, the drainage from Butternut Springs, Parker Ditch in the headwaters of Salt Creek, and the unnamed tributary south of Damon Run (site NPSPORTER06, Figure 18). Contrary to results from the Salt Creek Assessment, the NPSMP found *E. coli* concentrations elevated above the standard in Pepper Creek.

The Task Force/Point Source Committee focused its sampling to evaluate the effects of CSO inputs. However, two of the sites are located on tributaries that are not impacted by a CSO: Squirrel Creek and Damon Run (sites 206 and 205, respectively Figure 19, Table 6). Squirrel Creek was not sampled for any of the other studies evaluated here. Therefore, the data are the only results available for Squirrel Creek. Results show elevated *E. coli* concentrations in this small tributary related to rain events. The results for Damon Run confirm findings by the Salt Creek Assessment and the NPSMP. Concentrations of *E. coli* in Damon Run were elevated after rain events, sometimes higher than found at the basin outlet.

3.5 Summary

Concentrations of *E. coli* measured at IDEM's Fixed Monitoring Stations in Salt Creek indicate that the creek has been frequently impaired with respect to the standard for the entire period of record (1990-2001). Sixty-six percent of the measured concentrations at the

basin outlet were greater than the standard; some were over an order of magnitude greater than the standard. Results from four different studies provide good spatial coverage of conditions in Salt Creek. Some tributaries were sampled in more than one of four studies. Results show impaired conditions along the entire length of Salt Creek as well as many of its tributaries. Named tributaries with indications of impairment in more than one study include: Damon Run, Clark Ditch, Parker Ditch, the outlet to Lake Louise, and the drainage of Butternut Springs. Named tributaries with indications of impairment in only one study include: Pepper Creek, Squirrel Creek, Gustafson Ditch, and several unnamed tributaries.

Exceedances have occurred at all times of the year at the basin outlet, but fewer have been observed in April and October than other months. With respect to season, the lowest percentage of violations occurred in fall. Load-duration curve analysis showed that most of the spring and winter exceedances occurred at high flows, whereas summer and fall exceedances were distributed across the flow regime. Load-duration curve analysis further indicated that exceedances in Salt Creek are likely due to non-point sources or other event-driven inputs such as storm sewer discharges and CSOs. Results from monitoring by the Task Force/Point Source Committee confirms this hypothesis. Concentrations at the basin outlet increased above the standard following rainfall events significant enough to cause a CSO overflow in Valparaiso. Results in tributaries unaffected by a CSO showed that concentrations also increased above the standard after rainfall events, even after events not large enough to cause an overflow.

3.6 Data Sufficiency

The information compiled for this report was evaluated to determine if it was sufficient to support the development, calibration, and verification of a watershed and water-quality model of Salt Creek. The evaluation was accomplished by assessing the needs of the model chosen for the project, the Soil and Water Assessment Tool (SWAT) [Neitsch et al., 2002]. SWAT is a comprehensive hydrologic/water-quality model that was developed by the U.S. Department of Agriculture-Agricultural Research Service. SWAT is included in USEPA's BASINS 3.0 package for TMDL development.

The watershed component of the model is grid-based and utilizes a GIS interface to develop input files. A diversity of information is required to configure a model for simulation. However, the data compiled in this report are sufficient to build a model of the watershed. GIS data sets that will be used include the STATSGO soils coverage (Figure 11), the Na-

tional Land Cover Data Set (Figure 6), and the National Elevation Data Set (Figure 9). Other model inputs include point source locations (Table 1 and Figure 3) and daily rainfall and temperature measurements (Figure 12).

Model calibration and validation of the water balance, streamflows, and bacteria loads in the basin requires some understanding of actual conditions. Point source flows will be estimated from the NPDES Discharge Monitoring Reports. Streamflow calibration and validation will be accomplished with data from the stream gage in McCool (Figure 13). The gage is ideally located near the outlet of the basin. It is unfortunate that the gage was retired in the early 1990's; however, data from the gage comprise fifty years of daily flow values.

Calibration and verification of bacteria dynamics in the watershed will be accomplished with the wealth of water-quality data compiled for this report. The long-term record of monthly concentrations at the Fixed Stations, the two years of weekly samples collected by the Task Force/Point Source Committee, and the good spatial coverage provided by the Salt Creek Assessment and the Task Force/NPSMP (Table 2) will be sufficient for model calibration and validation.

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A Supplemental Data

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000
[--, no data; <, less than; date is month/day/year; TBOD5, biochemical oxygen demand; TS, total solids; TSS, total suspended solids; TOC, total organic carbon; $\mu\text{S}/\text{cm}$, micro-Siemans per centimeter; NTU, nephelometric turbidity units; D, the relative percent difference for this parameter was outside acceptable limits; J, estimated; Q, one or more of the QC criteria was out of control; H, analysis was performed in exceedance of acceptable holding limits]

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0006; US 20 Bridge, Portage												
AA06228	01/24/90	14.92	4.01	7.80	765	5.2	--	--	--	--	--	--
AA06229	02/28/90	11.96	2.49	7.36	685	19.0	--	--	--	--	--	--
AA06230	03/28/90	11.50	6.28	7.77	699	13.0	--	--	--	--	--	--
AA06232	05/16/90	5.80	15.22	7.68	537	--	--	--	--	--	--	--
AA06233	06/05/90	6.21	13.27	7.82	782	--	--	--	--	--	--	--
AA06234	07/17/90	7.70	21.00	7.86	--	--	--	--	--	--	--	--
AA06235	08/08/90	9.15	18.58	7.91	685	--	--	--	--	--	--	--
AA06237	10/03/90	10.42	14.28	7.86	905	--	--	--	--	--	--	--
AA06238	11/28/90	--	10.00	--	--	35.0	--	--	--	--	--	--
AA06239	12/19/90	12.40	4.47	7.46	916	--	--	--	--	--	--	--
DI05590	01/16/91	11.21	3.52	7.12	725	--	--	--	582	67	--	7100
DI05690	02/12/91	--	2.00	7.73	596	--	--	< 1	490	5	--	< 10
DI05775	03/05/91	11.77	5.05	7.78	661	--	--	--	479	53	--	260
DI5875	05/21/91	8.36	18.11	6.81	721	--	--	--	552	43	--	2100
DI9143	06/25/91	8.68	20.48	7.44	845	--	--	1.4	612	33	--	470
DI9244	07/24/91	--	--	--	--	--	--	--	660	34	--	230
DI9354	08/15/91	8.35	29.47	7.21	496	--	--	1	388	11	--	750
DI9453	09/24/91	8.99	12.49	--	757	--	--	--	541	13	--	530
DI9557	10/23/91	10.11	13.11	7.47	391	--	--	< 1	598	174	--	90
DI9643	11/20/91	--	--	--	--	--	--	--	424	116	--	3800
DI9768	12/18/91	--	--	--	--	--	--	< 1	542	13	--	90
DI9870	01/30/92	10.40	3.90	7.50	595	--	--	--	543	7	--	100
DI9978	02/25/92	11.00	5.50	8.00	608	--	--	1.8	451	21	--	280
DI8160	03/26/92	7.20	5.80	8.01	708	--	--	--	538	11	--	230
DI12033	04/22/92	8.00	11.50	6.79	699	--	--	2	387	10	--	80
DI12274	05/19/92	7.80	16.20	7.36	600	--	--	--	629	25	--	310
DI8263	06/24/92	9.89	16.60	8.24	501	--	--	1.8	649	65	--	610
DI8366	07/27/92	9.11	22.00	7.69	642	--	--	--	442	18	--	160
DI13094	08/24/92	8.40	19.20	7.59	635	--	--	< 1	618	27	--	40
DI13197	09/22/92	10.10	18.10	8.39	526	--	--	--	650	137	--	930
DI13382	10/20/92	--	--	--	--	--	--	1.4	527	14	--	100
DI13484	11/16/92	--	--	--	--	--	--	--	528	10	--	500
DI13745	12/15/92	--	--	--	--	--	--	< 1	412	12	--	1100
DI13872	01/13/93	9.50	3.12	7.40	643	--	--	--	512	30	--	1600

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0006; US 20 Bridge, Portage												
DI14184	03/16/93	--	4.52	7.60	693	--	--	--	446	42	--	1200
DI14359	04/26/93	6.50	6.00	--	--	--	--	--	--	--	--	--
DI14490	05/10/93	9.40	13.60	--	--	--	--	--	434	18	--	270
DI14956	08/02/93	14.58	22.29	8.11	581	--	--	1.7	621	48	--	700
DI15122	09/08/93	12.90	19.30	8.20	509	--	--	3.2	--	68	--	620
DI15406	09/29/93	9.70	13.70	7.80	800	--	--	--	356	19	--	660
DI15611	10/26/93	8.40	14.31	7.60	657	--	--	5	341	31	--	110
DI15754	11/16/93	--	--	--	--	--	--	--	388	18	--	670
DI15756	11/16/93	--	--	--	--	--	--	--	459	33	--	650
DI16141	03/03/94	--	--	--	--	--	--	3.3	479	20	--	270
DI16255	03/15/94	7.69	7.54	7.69	593	--	--	--	266	8	--	980
DI16575	06/01/94	9.14	15.03	8.13	561	--	--	--	435	18	--	30
DI17091	08/02/94	11.96	25.88	8.26	459	--	--	--	435	9	--	95
DI17835	10/04/94	8.73	19.47	8.22	583	--	--	--	621	19	--	2100
DI17911	11/14/94	9.76	12.41	7.62	411	--	--	1.6	589	37	--	1500
DI18338	01/18/95	10.57	4.21	7.48	653	--	--	--	375	26	--	380
DI18585	03/07/95	10.19	3.62	8.33	475	--	--	--	466	54	--	1300
DI18707	04/25/95	9.79	13.74	7.92	657	--	--	< 1	482	15	--	220
DI18938	05/24/95	8.71	13.94	8.12	636	--	--	--	544	82	--	1500
DI19255	06/26/95	7.29	22.17	8.09	812	--	--	1.8	621	44	--	420
DI19362	07/26/95	7.33	22.79	7.19	668	--	--	--	591	48	--	730
DI19766	09/07/95	7.64	19.80	8.10	821	--	--	< 1	610	37	--	130
DI20170	09/28/95	9.68	16.91	8.15	889	--	--	--	588	15	--	180
DI20274	10/25/95	10.11	8.84	7.78	898	--	--	--	567	10	--	90
DI20478	11/15/95	11.84	2.85	7.97	747	--	--	--	513	7	--	5300
DI20581	12/21/95	12.95	0.42	8.49	845	--	--	1.3	439	< 4	--	930
DI20686	01/24/96	13.51	1.92	8.42	842	--	--	--	591	4	--	370
DI20790	02/28/96	11.07	1.94	7.72	581	--	--	3.3	609	7	--	1800
DI21198	04/24/96	9.71	10.65	7.74	616	--	--	1.8	508	43	--	210
DI21503	05/22/96	8.98	16.42	7.81	686	--	--	--	590	79	--	730
DI21607	06/19/96	5.72	21.67	7.34	333	--	--	2.1	336	80	--	820
DI21956	07/17/96	7.65	21.64	8.15	855	--	--	--	608	42	--	370
DI22079	08/21/96	7.47	22.94	8.07	806	27.7	--	1.2	557	33	--	90
DI22526	09/18/96	9.02	15.93	8.07	778	27.9	--	--	393	17	--	390
DI22734	10/23/96	8.85	11.47	7.76	755	43.6	--	1.7	552	39	--	680

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0006; US 20 Bridge, Portage												
DI22836	11/13/96	11.22	4.21	7.77	768	10.7	--	--	557	7	--	640
DI22838	11/13/96	12.21	3.17	7.97	774	6.8	--	--	525	< 4	--	580
DI22946	12/11/96	9.65	4.89	8.02	738	35.4	--	1.4	559	22	--	460
DI23058	02/05/97	11.06	3.02	7.82	723	29.5	--	--	513	48	--	1500
DI23162	02/26/97	11.42	3.62	7.85	621	12.6	--	< 1	457	28	--	460
DI23272	04/02/97	9.96	7.94	8.06	788	20.2	--	1.6	506	12	--	< 1
DI23379	04/30/97	8.80	12.20	7.80	786	26.5	--	--	536	18	--	60
DI23493	05/28/97	9.50	12.31	8.27	406	102.0	--	--	511	25	--	200
DI23608	06/18/97	6.88	18.00	7.40	437	52.1	--	1.8	345	55	--	1100
DI23722	07/23/97	7.37	20.49	7.92	658	197.0	--	--	546	116	--	1400
DI23828	08/20/97	8.20	18.32	7.87	694	65.0	--	1.1	513	57	--	1500
DI23959	09/24/97	9.39	13.87	8.19	786	61.6	--	--	571	44	--	4000
DI24194	10/21/97	9.94	9.92	8.25	855	11.1	--	< 1	563	11	--	200
DI24358	11/18/97	10.56	3.87	7.95	747	10.3	--	--	615	< 4	--	3100
DI24544	12/09/97	10.95	3.36	7.86	733	7.5	--	< 1	562	< 4	--	20
DI24656	02/04/98	12.00	3.32	8.11	791	14.6	--	< 1	509	9	--	310 (H)
DI24788	03/04/98	12.36	4.82	8.02	789	8.1	--	--	503	7	--	--
DI24923	04/01/98	9.00	12.00	7.70	600	122.0	--	2.6	467	86	--	1800
DI25082	04/28/98	9.80	11.95	8.00	721	21.6	--	--	486	21	--	< 20
DI25237	06/03/98	7.60	21.60	8.00	335	11.2	--	3.7	605	40	--	4000
DI25415	06/30/98	7.40	21.60	8.00	435	14.1	--	--	973	656	--	4000
DI25577	07/28/98	7.50	21.50	8.20	852	11.5	--	--	578	38	--	--
DI25808	09/01/98	8.10	20.70	8.40	850	10.2	--	< 1	683	25	--	4000
DI26083	09/29/98	8.50	18.10	7.80	782	7.2	--	< 1	568	18	--	340
DI25963	10/27/98	9.00	13.50	8.20	821	11.3	--	--	581	22	--	100
DI26278	11/17/98	9.50	8.60	8.00	806	9.2	--	< 1	554	8	--	200
DI26501	12/15/98	12.80	4.20	8.40	858	9.4	--	--	574	5	--	170
DI26614	01/26/99	12.90	2.60	7.90	486	15.8	--	1.6	466	32	--	190
DI26784	02/23/99	12.30	1.20	8.30	850	9.8	--	--	560	< 4	--	110
DI26940	03/24/99	11.50	6.40	8.20	820	7.5	--	< 1	544	< 4	--	30
DI27079	04/28/99	8.86	11.44	7.89	630	96.7	--	--	453	80	--	--
DI27269	05/25/99	9.30	15.00	8.10	750	14.0	--	1	510	17	--	--
DI27467	06/29/99	7.30	20.00	8.20	805	30.7	74	--	630	36	4.1	--
DI27648	07/28/99	7.30	24.60	8.16	766	47.9	--	1	552	57	--	--

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0006; US 20 Bridge, Portage												
DI28061	09/29/99	8.10	16.20	8.00	820	26.3	--	2	614	84	--	< 5
DI28273	10/18/99	10.10	12.50	8.20	658	12.5	--	--	562	10	--	--
DI28488	12/01/99	13.00	4.00	8.20	821	12.6	--	< 1	547	< 4	--	--
DI28654	12/15/99	11.30	6.00	8.00	725	28.6	--	--	531	32	--	1550
DI28835	01/25/00	11.00	0.20	7.70	865	8.6	--	< 1	620	< 4	--	390
DI29052	02/14/00	12.40	2.60	8.30	1017	10.1	--	--	678	6	--	--
DI29240	03/20/00	11.10	8.50	8.00	856	21.4	75	< 1	607	36	4.5	--
DI29457	04/25/00	8.90	11.20	7.80	824	24.3	68	--	578	31	6.8	390
DI29626	05/24/00	7.80	21.70	8.40	905	29.2	73	< 1	620	37	4.1	--
DI29814	06/22/00	5.50	22.20	7.70	439	59.8	29	--	376	64	5.4	< 1
DI30010	07/17/00	7.90	23.30	8.20	873	31.2	69	< 1	594	36	4.1	--
DI30198	08/22/00	8.20	19.60	8.10	856	10.6	63	--	540	33	3.7	--
DI30386	09/20/00	7.20	18.00	8.00	893	9.5	74	< 1	600	33	3.8	820
DI30592	10/24/00	8.00	16.40	8.00	862	20.5	66	--	578	20	4.3	1700
DI30779	11/21/00	12.60	1.00	7.50	906	5.2	76	< 1	589	5	3.7	440
DI30969	12/13/00	13.00	0.70	7.50	841	8.2	78	--	591	4	3.2	--
DI31157	01/09/01	12.80	0.70	7.90	1018	7.2	97	< 1	636	4	3.5	--
DI31353	02/13/01	12.00	2.60	7.50	753	22.4	77	--	565	25	6.5	650
DI31546	03/12/01	12.20	6.10	8.00	839	9.2	71	1.4	548	5	4.2	--
DI31745	04/10/01	8.00	13.60	7.80	852	15.5	78	--	577	14	5.2	--
DI31952	05/09/01	8.00	19.90	8.30	906	25.6	80	1.4	657 (DJ)	32	3.5	--
DI32153	06/07/01	8.20	15.10	8.00	679	109.0	60	--	569	72	7.6	--
DI32345	07/09/01	7.60	24.50	8.70	925	22.0	79	< 1	635	25	4.7	--
DI32563	08/14/01	8.10	18.90	7.90	844	53.0	65	--	618	53	3.8	--
DI32756	09/19/01	7.80	17.40	8.00	858	30.9	78	1.3 (QJ)	572	40	4	--
DI32949	10/10/01	8.40	14.50	8.10	832	10.1	66	--	555	28	5.7	--
DI33142	11/08/01	9.40	11.00	8.00	844	18.9	63	< 1	582	21	6.2	--
DI33337	12/03/01	11.00	8.90	8.20	803	9.5	55	--	530	6	6	--
DI33517	01/28/02	13.30	6.60	8.20	872	4.8	--	--	--	--	--	--
DI33698	02/19/02	11.70	5.20	7.80	870	7.5	--	--	--	--	--	--
AA09663	03/13/02	11.20	7.90	8.00	783	17.1	--	--	--	--	--	--
AA10048	04/16/02	8.00	21.50	7.90	829	16.7	--	--	--	--	--	--
AA12658	08/08/02	8.12	19.55	8.21	869	33.6	--	--	--	--	--	--

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0007; SR 130 Bridge, Below STP, Near Valparaiso												
AA06216	01/24/90	13.95	4.74	7.74	789	5.5	--	--	--	--	--	--
AA06217	02/28/90	12.39	2.52	7.27	724	41.0	--	--	--	--	--	--
AA06218	03/28/90	12.12	6.44	7.64	730	13.0	--	--	--	--	--	--
AA06220	05/16/90	7.14	15.36	7.68	548	--	--	--	--	--	--	--
AA06221	06/04/90	5.71	15.52	7.83	778	--	--	--	--	--	--	--
AA06222	07/17/90	7.60	20.00	7.83	--	--	--	--	--	--	--	--
AA06223	08/08/90	9.32	17.08	7.98	723	--	--	--	--	--	--	--
AA06224	09/19/90	9.90	16.34	7.62	694	--	--	--	--	--	--	--
AA06225	10/03/90	9.98	14.73	7.84	930	--	--	--	--	--	--	--
AA06226	11/28/90	--	11.00	--	--	47.0	--	--	--	--	--	--
AA06227	12/19/90	12.24	4.70	8.01	903	--	--	--	--	--	--	--
DI7021	01/16/91	10.85	3.92	7.46	731	--	--	--	635	57	--	980
DI05688	02/12/91	--	1.50	7.93	537	--	--	< 1	531	8	--	140
DI05773	03/06/91	11.02	6.72	7.77	731	--	--	--	506	14	--	540
DI5873	05/21/91	8.34	18.26	6.76	763	--	--	--	537	41	--	4600
DI9141	06/25/91	10.72	20.94	7.48	865	--	--	< 1	594	12	--	6500
DI9245	07/24/91	--	--	--	--	--	--	--	595	22	--	--
DI9352	08/15/91	8.50	28.53	7.41	488	--	--	1.1	401	31	--	970
DI9451	09/24/91	8.53	12.94	--	771	--	--	--	550	17	--	310
DI9555	10/22/91	6.73	15.22	7.19	529	--	--	< 1	585	-1	--	110
DI9641	11/20/91	--	--	--	--	--	--	--	432	104	--	3200
DI9766	12/18/91	--	--	--	--	--	--	< 1	571	15	--	230
DI9867	01/30/92	11.40	4.30	7.30	712	--	--	--	601	5	--	380
DI9976	02/25/92	10.90	5.60	7.89	614	--	--	1.3	501	14	--	330
DI8158	03/26/92	7.30	5.70	7.99	737	--	--	--	560	5	--	140
DI12031	04/22/92	8.90	9.80	6.86	741	--	--	< 1	572	16	--	250
DI12272	05/19/92	8.00	15.10	7.11	812	--	--	--	633	31	--	340
DI8261	06/24/92	7.50	16.20	8.48	802	--	--	1.7	626	47	--	960
DI8364	07/27/92	7.80	21.70	8.02	716	--	--	--	554	49	--	210
DI13092	08/24/92	10.90	17.40	7.60	611	--	--	< 1	612	9	--	240
DI13195	09/22/92	11.10	16.60	7.96	469	--	--	--	548	103	--	590
DI13380	10/20/92	--	--	--	--	--	--	< 1	464	52	--	100
DI13482	11/16/92	--	--	--	--	--	--	--	546	6	--	500
DI13743	12/15/92	--	--	--	--	--	--	< 1	472	11	--	340
DI13870	01/13/93	8.60	2.15	7.50	622	--	--	--	442	32	--	< 10

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0007; SR 130 Bridge, Below STP, Near Valparaiso												
DI14182	03/16/93	--	3.90	7.50	601	--	--	--	366	14	--	1100
DI14357	04/26/93	7.50	5.50	--	--	--	--	--	--	--	--	--
DI14488	05/10/93	9.70	13.44	--	--	--	--	--	460	28	--	880
DI14954	08/02/93	13.04	23.65	8.66	516	--	--	3	536	52	--	530
DI15120	09/08/93	11.60	19.90	8.00	386	--	--	3.3	--	82	--	910
DI15404	09/29/93	9.20	13.50	7.70	670	--	--	--	408	62	--	2000
DI15609	10/27/93	8.10	14.89	7.50	611	--	--	3.6	396	33	--	140
DI16139	03/03/94	--	--	--	--	--	--	< 1	447	10	--	330
DI16253	03/15/94	8.12	6.83	7.46	306	--	--	--	328	16	--	110
DI16420	04/26/94	--	--	--	--	--	--	3	461	28	--	90
DI16573	06/01/94	9.65	14.26	7.56	583	--	--	--	285	11	--	< 10
DI17089	08/02/94	12.12	23.07	8.39	463	--	--	--	408	18	--	430
DI17557	08/31/94	8.59	16.63	7.75	480	--	--	4	464	20	--	--
DI17833	10/04/94	8.53	14.72	7.81	379	--	--	--	636	12	--	600
DI17909	11/15/94	8.55	12.83	8.19	521	--	--	1.6	10	36	--	6600
DI18336	01/18/95	10.35	5.12	7.55	700	--	--	--	528	13	--	480
DI18583	03/07/95	10.16	4.98	7.91	512	--	--	--	469	49	--	990
DI18705	04/27/95	9.83	11.52	7.81	699	--	--	1	515	21	--	170
DI18936	05/24/95	8.91	13.49	7.98	586	--	--	--	571	144	--	3300
DI19253	06/26/95	8.17	21.37	8.12	802	--	--	1	605	21	--	570
DI19360	07/26/95	8.07	20.97	8.01	777	--	--	--	579	10	--	710
DI19764	09/07/95	8.10	19.23	8.04	840	--	--	< 1	611	25	--	320
DI20168	09/28/95	9.05	17.93	8.10	906	--	--	--	585	6	--	220
DI20272	10/25/95	10.95	7.69	7.82	979	--	--	--	596	< 4	--	80
DI20476	11/15/95	15.35	1.48	7.82	746	--	--	--	549	13	--	3200
DI20579	12/21/95	12.74	0.78	8.42	916	--	--	1	600	10	--	8800
DI20684	01/24/96	13.11	2.12	8.36	869	--	--	--	589	5	--	440
DI20788	02/28/96	11.29	2.16	7.73	709	--	--	2.5	604	9	--	2000
DI21092	03/26/96	12.12	1.42	7.98	624	--	--	--	590	8	--	1100
DI21094	03/26/96	12.40	1.51	8.03	847	--	--	--	568	5	--	530
DI21196	04/24/96	10.81	10.17	7.74	660	--	--	1.6	521	25	--	220
DI21501	05/22/96	9.11	15.80	7.89	740	--	--	--	562	38	--	310
DI21605	06/19/96	6.14	20.68	7.47	357	--	--	1.7	292	32	--	500
DI21954	07/17/96	8.35	20.41	8.05	874	--	--	--	596	22	--	910
DI22077	08/21/96	7.52	21.12	7.98	868	31.2	--	< 1	594	21	--	220

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0007; SR 130 Bridge, Below STP, Near Valparaiso												
DI22524	09/18/96	9.11	14.64	7.97	864	29.6	--	--	548	15	--	390
DI22732	10/23/96	9.09	10.46	7.62	732	40.2	--	2.1	567	54	--	3400
DI22944	12/11/96	10.22	5.64	7.98	821	63.8	--	1.4	560	55	--	1900
DI23056	02/05/97	11.23	2.28	7.73	711	34.1	--	--	467	26	--	4100
DI23160	02/26/97	11.20	3.04	7.81	638	16.8	--	1.1	466	26	--	1100
DI23270	04/02/97	10.16	6.28	7.97	828	17.7	--	< 1	536	17	--	12
DI23377	04/30/97	9.10	12.10	7.90	851	32.1	--	--	549	22	--	70
DI23491	05/28/97	9.29	12.70	7.79	746	179.0	--	--	514	31	--	310
DI23606	06/18/97	7.07	17.63	7.36	465	82.5	--	--	368	53	7.9	1400
DI23720	07/23/97	7.78	19.78	7.93	691	53.6	--	--	506	52	--	890
DI23826	08/20/97	8.31	17.89	7.82	685	30.0	--	1.1	500	35	--	920
DI23957	09/24/97	9.49	12.77	8.13	848	24.8	--	--	560	15	--	4000
DI24192	10/21/97	10.70	10.02	8.25	897	5.2	--	< 1	574	< 4	--	1200
DI24356	11/18/97	11.30	4.05	7.75	802	5.2	--	--	649	5	--	< 20
DI24542	12/09/97	12.12	2.12	7.75	747	4.3	--	< 1	576	9	--	180
DI24654	02/04/98	12.30	3.02	8.05	633	13.6	--	< 1	529	15	--	1400 (H)
DI24786	03/04/98	12.65	5.32	8.04	842	4.3	--	--	505	8	--	--
DI24921	04/01/98	9.82	10.80	7.70	600	50.1	--	1.2	424	41	--	340
DI25080	04/28/98	10.31	11.86	8.00	745	8.2	--	--	497	12	--	20
DI25235	06/03/98	6.80	20.70	7.90	361	18.7	--	< 1	572	7	--	4000
DI25413	06/30/98	8.00	22.40	8.00	624	12.2	--	--	377	94	--	4000
DI25575	07/28/98	8.20	20.60	8.20	902	8.2	--	--	610	23	--	--
DI25806	09/01/98	8.20	18.40	8.50	880	6.5	--	< 1	573	11	--	4000
DI26081	09/29/98	6.90	16.50	8.10	862	9.2	--	< 1	568	6	--	460
DI25961	10/27/98	9.20	13.00	8.10	915	7.9	--	--	602	9	--	110
DI26276	11/17/98	10.60	8.50	8.20	826	8.6	--	< 1	619	14	--	350
DI26499	12/15/98	13.00	5.20	8.40	865	6.1	--	--	580	11	--	600
DI26612	01/26/99	12.00	2.20	8.10	625	17.4	--	1.7	525	26	--	240
DI26782	02/23/99	12.50	1.60	8.20	785	6.5	--	--	545	10	--	310
DI26938	03/24/99	12.00	6.40	8.10	812	7.2	--	1	547	4	--	340
DI27078	04/28/99	8.73	11.89	7.84	589	63.2	--	--	381	48	--	--
DI27268	05/25/99	9.10	16.20	8.00	800	12.6	--	2	560	15	--	--
DI27466	06/29/99	8.20	18.80	8.10	848	22.1	85	--	670	31	4.3	--
DI27647	07/28/99	7.60	22.80	8.00	771	53.5	--	2.1	563	65	--	--
DI27854	08/25/99	8.30	18.90	8.10	920	17.0	--	--	601	22	--	--
DI28060	09/29/99	8.00	16.40	7.90	811	26.1	--	1.7	565	30	--	< 5

Table 3. Water quality data from IDEM Fixed-Station Monitoring in the Salt Creek watershed in Porter County, Indiana, 1990-2000—Continued

Sample ID	Sample Date	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Chloride (mg/L)	TBOD5 (mg/L)	TS (mg/L)	TSS (mg/L)	TOC (mg/L)	E. coli (CFU/100mL)
Site: LMG050-0007; SR 130 Bridge, Below STP, Near Valparaiso												
DI28272	10/18/99	10.20	12.60	8.20	984	8.4	--	--	591	4	--	--
DI28487	12/01/99	13.40	4.30	8.30	672	5.6	--	< 1	583	12	--	--
DI28653	12/15/99	11.00	5.90	7.90	748	32.1	--	--	561	35	--	630
DI28834	01/25/00	11.20	0.30	7.80	955	11.4	--	< 1	634	20	--	610
DI29051	02/14/00	13.00	3.80	8.00	962	4.8	--	--	643	4	--	--
DI29239	03/20/00	10.50	10.60	8.00	982	18.6	98	1.2	650	32	5.6	--
DI29456	04/25/00	9.50	10.80	7.90	797	13.6	60	--	554	23	7.3	1100
DI29625	05/24/00	8.20	21.00	8.70	858	19.3	73	< 1	617	25	4	--
DI29813	06/22/00	6.60	22.20	7.80	497	64.3	31	--	401	60	6.8	< 1
DI30009	07/17/00	8.20	22.30	8.20	982	13.8	76	< 1	593	16	3.4	--
DI30197	08/22/00	8.00	19.20	8.00	914	5.1	79	--	595	17	3.2	--
DI30385	09/20/00	8.10	17.90	8.10	974	4.3	54	< 1	620	11	3.3	610
DI30591	10/24/00	7.70	16.80	7.90	921	22.6	84	--	657	28	4.7	2000
DI30778	11/21/00	12.30	1.30	7.50	951	4.0	88	< 1	628	6	3.6	1700
DI30968	12/13/00	12.40	0.80	7.30	943	9.6	90	--	618	10	3.6	--
DI31156	01/09/01	13.20	4.20	8.30	1086	5.1	105	1.1	685	12	3.6	--
DI31352	02/13/01	11.50	3.40	7.50	861	23.7	88	--	630	21	7	1600
DI31545	03/12/01	11.20	7.50	8.10	842	7.6	71	1.3	564	5	4.7	--
DI31744	04/10/01	8.90	13.20	7.90	942	17.8	80	--	609	13	5.1	--
DI31951	05/09/01	8.80	19.00	8.60	941	10.3	83	1	678 (DJ)	26	3.3	--
DI32152	06/07/01	8.30	15.30	8.00	730	37.3	59	--	553	33	7.7	1600
DI32344	07/10/01	8.10	22.00	8.80	1000	8.5	91	< 1	716	11	2.5	--
DI32562	08/14/01	9.60	18.20	8.00	1025	5.6	105	--	668	11	3.6	--
DI32755	09/19/01	7.90	17.80	7.90	848	9.5	77	1.4 (QJ)	554	21	4.8	--
DI32948	10/10/01	8.40	15.00	8.10	900	7.5	75	--	595	11	6.9	--
DI33141	11/08/01	9.30	11.50	8.00	893	8.9	72	< 1	608	10	6.4	--
DI33336	12/03/01	10.60	9.90	8.10	826	10.0	56	--	552	9	6.1	--
DI33516	01/28/02	12.50	8.10	7.90	913	4.2	--	--	--	--	--	--
DI33697	02/19/02	11.20	6.50	7.50	878	20.0	--	--	--	--	--	--
AA09662	03/13/02	10.80	9.10	8.00	824	15.9	--	--	--	--	--	--
AA10047	04/16/02	9.50	21.00	7.90	846	12.8	--	--	--	--	--	--
AA12657	08/07/02	8.37	21.21	8.23	925	15.1	--	--	--	--	--	--

Table 4. Water quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000

[--, no data; <, less than; >, greater than; date is month/day/year; SEMP, Statewide *E. coli* monitoring project; SCA, Salt Creek Assessment; $\mu\text{S}/\text{cm}$, micro-Siemans per centimeter; NTU, nephelometric turbidity units; H, analysis for this parameter was performed in exceedance of acceptable holding limits; J, estimated]

Table 4. Water quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000—Continued

Table 4. Water quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000—Continued

Sample ID	Sample Date	IDEML Study	Dissolved Oxygen (mg/L)	Temp (deg C)	pH	Specific Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	Coliforms (CFU/100mL)	E. coli (CFU/100mL)
Site – LMG050-0019; Clark Ditch & Clark Ditch & Joliet Rd									
AA02155	09/27/00	SCA	10.20	12.70	8.24	887	10.6	--	630
AA02351	10/03/00	SCA	10.57	15.16	8.09	814	-404.0	--	560
AA02505	10/11/00	SCA	10.06	8.21	8.03	0.78	8.0	--	410
AA02615	10/18/00	SCA	11.52	10.08	7.85	811	13.3	--	1,100
AA02897	10/25/00	SCA	8.52	14.53	7.36	844	6.5	--	320
Geometric Mean								551	
Site – LMG050-0020; Stream downstream of Lake Louise & Joliet Rd									
AA02156	09/27/00	SCA	7.46	14.40	7.78	973	9.4	--	1,600
AA02352	10/03/00	SCA	9.98	15.20	7.71	880	-425.0	--	270
AA02506	10/11/00	SCA	7.92	12.86	7.73	0.97	12.4	--	2,500
AA02616	10/18/00	SCA	9.24	12.80	7.73	913	87.4	--	3,900
AA02898	10/25/00	SCA	9.73	14.24	7.21	943	7.7	--	190
Geometric Mean								956	
Site – LMG050-0021; Unnamed Tributary to Salt Creek at CR 400 N									
AA02157	09/27/00	SCA	8.93	12.80	8.31	570	4.8	--	150
AA02353	10/03/00	SCA	10.04	14.38	8.19	531	-429.0	--	230
AA02507	10/11/00	SCA	9.82	9.83	8.06	0.53	5.6	--	120
AA02617	10/18/00	SCA	11.18	10.99	8.07	543	7.9	--	1,300
AA02899	10/25/00	SCA	9.60	13.61	7.36	570	3.6	--	90
Geometric Mean								217	
Site – LMG050-0022; Salt Creek & SR 130, Fixed Station SLC-17									
AA02158	09/27/00	SCA	8.63	13.70	8.24	1025	6.6	--	180
AA02354	10/03/00	SCA	9.60	16.20	8.11	949	-450.0	--	150
AA02508	10/11/00	SCA	9.54	9.70	8.10	0.89	10.5	--	130
AA02618	10/18/00	SCA	10.80	11.70	8.06	994	7.7	--	770
AA02900	10/25/00	SCA	9.87	15.47	7.49	917	6.1	--	280
Geometric Mean								238	
Site – LMG050-0023; Pepper Creek & CR 325 W									
AA02159	09/27/00	SCA	8.72	13.40	8.23	858	6.4	--	40
AA02355	10/03/00	SCA	9.84	14.70	8.09	785	-415.0	--	50
AA02509	10/11/00	SCA	9.10	10.02	8.13	0.83	8.0	--	280
AA02619	10/18/00	SCA	10.63	11.70	8.07	831	12.9	--	250
AA02901	10/25/00	SCA	10.67	13.81	7.40	889	14.1	--	120
Geometric Mean								111	

Table 4. Water quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000—Continued

Table 4. Water quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000—Continued

Table 4. Water quality data in the Salt Creek watershed in Porter County, Indiana from IDEM special studies, 2000—Continued

Table 5. Non-point source water quality data collected by the Interagency Task Force in the Salt Creek watershed, Porter County, Indiana, 1999-2001

[shaded *E. coli* measurements are estimates; --, no data; date is month/day/year; TNTC, too numerous to count; samples from 7/25/00 may not be valid due to high incubator temperatures; samples from 8/8/00 may not be valid due to long incubation time (28 hours)]

Sample Date	Rainfall (in)	Prior Week Rain (in)	48 hr Rain	Temp (deg F)	pH	Nitrate (mg/L)	<i>E. coli</i> (col/100 mL)
Site – NPSPORTER01; Clark Ditch on Joliet Rd. east of 375 W							
09/03/99	--	--	--	--	--	--	600
09/08/99	--	--	--	--	--	--	600
09/30/99	--	--	--	--	--	--	6700
07/11/00	0	0.73	0.33	68	7.8	0	1,553
07/18/00	0	0.25	0	70	8.4	2	816
07/25/00	0	0.01	0	62	8.3	3	2,419
08/01/00	0.02	0.41	0.3	66	8.1	3	2,419
08/08/00	0	1.44	0	68	8.3	3	1,553
08/15/00	0	0.02	0	70	8.4	3	1,120
08/22/00	--	--	--	--	--	--	727
Site – NPSPORTER03; Clark Ditch on Joliet Rd. east of 375 W							
06/27/01	--	--	--	--	--	--	TNTC
07/05/01	--	--	--	--	--	--	1986.28
07/11/01	--	--	--	--	--	--	1413.6
07/18/01	--	--	--	--	--	--	inaccessible
Site – NPSPORTER04; Salt Creek on 400 N, west of 325 W							
09/03/99	--	--	--	--	--	--	100
09/08/99	--	--	--	--	--	--	1100
09/30/99	--	--	--	--	--	--	3300
07/11/00	0	0.73	0.33	68	8	6	1,046
07/18/00	0	0.25	0	70	8.3	6	866
07/25/00	0	0.01	0	63	8.6	7	921
08/01/00	0.02	0.41	0.3	66	8.2	7	579
08/08/00	0	1.44	0	68	8.3	9	816
08/15/00	0	0.02	0	69	8.1	10*	816
08/22/00	--	--	--	--	--	--	687
07/19/02	--	--	--	--	--	--	866
08/01/02	--	--	--	--	--	--	313
08/07/02	--	--	--	--	--	--	548
Site – NPSPORTER05; Pepper Creek on 325 W, west of RT 149							
09/03/99	--	--	--	--	--	--	300
09/08/99	--	--	--	--	--	--	800
09/30/99	--	--	--	--	--	--	6000
07/11/00	0	0.73	0.33	64	8	0	649
07/18/00	0	0.25	0	63	8.3	1	727
07/25/00	0	0.01	0	58	8.5	1	88
08/01/00	0.02	0.41	0.3	61	8.2	2	345
08/08/00	0	1.44	0	64	8.3	2	308
08/15/00	0	0.02	0	64	8.1	2*	387
08/22/00	--	--	--	--	--	--	308
Site – NPSPORTER06; 175 West and 650 North							
09/03/99	--	--	--	--	--	--	Dry
09/08/99	--	--	--	--	--	--	Dry
09/30/99	--	--	--	--	--	--	Dry

Table 5. Non-point source water quality data collected by the Interagency Task Force in the Salt Creek watershed, Porter County, Indiana, 1999-2001—Continued

Sample Date	Rainfall (in)	Prior Week Rain (in)	48 hr Rain	Temp (deg F)	pH	Nitrate (mg/L)	E. coli (col/100 mL)
Site – NPSPORTER07; 200 W, north of 700 N							
09/03/99	--	--	--	--	--	--	400
09/08/99	--	--	--	--	--	--	1300
09/30/99	--	--	--	--	--	--	6100
09/08/99	--	--	--	--	--	--	Dry
09/30/99	--	--	--	--	--	--	Dry
09/03/99	--	--	--	--	--	--	400
09/08/99	--	--	--	--	--	--	1300
09/30/99	--	--	--	--	--	--	6100
07/11/00	0	0.73	0.33	70	8	0	435
07/18/00	0	0.25	0	66	8.3	1	345
07/25/00	0	0.01	0	62	8.6	1	29
08/01/00	0.02	0.41	0.3	64	8.2	2	285
08/08/00	0	1.44	0	68	8.4	2	687
08/15/00	0	0.02	0	69	8.1	2*	2,419
08/22/00	--	--	--	--	--	--	980
Site – NPSPORTER08; Damon Run on 200W, south of Robbins Rd.							
09/03/99	--	--	--	--	--	--	7,200
09/08/99	--	--	--	--	--	--	7,700
09/30/99	--	--	--	--	--	--	6,600
07/11/00	0	0.73	0.33	70	7.7	1	1,553
07/18/00	0	0.25	0	70	8.1	1	250
07/25/00	0	0.01	0	65	8.4	1	27
08/01/00	0.02	0.41	0.3	67	8.1	1	1,733
08/08/00	0	1.44	0	68	8.1	3	2,419
08/15/00	0	0.02	0	70	8	4*	1,300
08/22/00	--	--	--	--	--	--	687
Site – NPSPORTER13; Clark Ditch on Rte 2, northeast of Aberdeen golf course							
06/27/01	--	--	--	--	--	--	--
07/05/01	--	--	--	--	--	--	TNTC
07/11/01	--	--	--	--	--	--	1,120
07/18/01	--	--	--	--	--	--	TNTC
07/17/02	--	--	--	--	--	--	980
07/19/02	--	--	--	--	--	--	132
07/24/02	--	--	--	--	--	--	2,419
07/31/02	--	--	--	--	--	--	45
08/07/02	--	--	--	--	--	--	548
08/14/02	--	--	--	--	--	--	231
Site – NPSPORTER14; Joliet Rd / west of 01PORTER03							
06/27/01	--	--	--	--	--	--	285
07/05/01	--	--	--	--	--	--	726
07/11/01	--	--	--	--	--	--	770
07/18/01	--	--	--	--	--	--	inaccessible
Site – NPSPORTER14b; Campbell near Horseprairie Rd							
07/19/02	--	--	--	--	--	--	387
08/01/02	--	--	--	--	--	--	9
08/07/02	--	--	--	--	--	--	488
08/14/02	--	--	--	--	--	--	866

Table 5. Non-point source water quality data collected by the Interagency Task Force in the Salt Creek watershed, Porter County, Indiana, 1999-2001—Continued

Sample Date	Rainfall (in)	Prior Week Rain (in)	48 hr Rain	Temp (deg F)	pH	Nitrate (mg/L)	E. coli (col/100 mL)
Site – NPSPORTER15; Salt Creek on Horseprairie Rd, north of Zao Island Park							
06/27/01	--	--	--	--	--	--	55
07/05/01	--	--	--	--	--	--	194
07/11/01	--	--	--	--	--	--	80
07/18/01	--	--	--	--	--	--	649
07/12/02	--	--	--	--	--	--	1,986
07/31/02	--	--	--	--	--	--	13
08/07/02	--	--	--	--	--	--	19
08/14/02	--	--	--	--	--	--	111
Site – NPSPORTER16; Parker Ditch on Division Rd, east of Smoke Rd							
06/27/01	--	--	--	--	--	--	980
07/05/01	--	--	--	--	--	--	1,120
07/11/01	--	--	--	--	--	--	1,553
07/18/01	--	--	--	--	--	--	TNTC
07/03/02	--	--	--	--	--	--	260
07/17/02	--	--	--	--	--	--	291
07/19/02	--	--	--	--	--	--	326
07/24/02	--	--	--	--	--	--	411
07/31/02	--	--	--	--	--	--	866
08/07/02	--	--	--	--	--	--	37
08/14/02	--	--	--	--	--	--	74
Site – NPSPORTER17; Parker Ditch on Sagers Rd, between Division Rd & 150S							
06/27/01	--	--	--	--	--	--	1,120
07/05/01	--	--	--	--	--	--	1,203
07/11/01	--	--	--	--	--	--	1,986
07/18/01	--	--	--	--	--	--	TNTC
07/03/02	--	--	--	--	--	--	1,120
07/17/02	--	--	--	--	--	--	488
07/19/02	--	--	--	--	--	--	687
07/24/02	--	--	--	--	--	--	816
07/31/02	--	--	--	--	--	--	68
08/07/02	--	--	--	--	--	--	517
08/14/02	--	--	--	--	--	--	242
Site – NPSPORTER18; Block Ditch on 100W, south of Rte 2							
06/27/01	--	--	--	--	--	--	32
07/05/01	--	--	--	--	--	--	45
07/11/01	--	--	--	--	--	--	50
07/18/01	--	--	--	--	--	--	TNTC
07/03/02	--	--	--	--	--	--	57
07/12/02							50
07/19/02	--	--	--	--	--	--	2,419
07/24/02	--	--	--	--	--	--	102
07/31/02	--	--	--	--	--	--	140
08/07/02	--	--	--	--	--	--	726
08/14/02	--	--	--	--	--	--	60

Note: Samples from 7/25/00 may not be valid due to high incubator temperatures.

Samples from 8/8/00 may not be valid due to a long incubation time (28 hours).

Table 6. Point source water quality data collected by the Interagency Task Force in the Salt Creek watershed in Porter County, Indiana, 1997-1999

[site 201 was sampled by the city of Valparaiso; all other sites were sampled by the Porter County Health Department; --, no data, likely due to unsafe sampling conditions; date is month/day/year; TNTC, too numerous to count; ERR, laboratory error in sample analysis; shaded values are awaiting QA/QC verification]

Sample Date	E. coli (col/100 mL)	Sample Date	E. coli (col/100 mL)
Site – 201; US 30 U\S 001		Site – 202; WWTF Outfall 1	
10/29/97	118	10/29/97	6
03/18/98	184	03/18/98	45
03/25/98	252	03/25/98	1
04/01/98	269	04/01/98	4
04/08/98	158	04/08/98	1
04/15/98	910	04/15/98	96
04/22/98	287	04/22/98	1
04/29/98	755	04/29/98	4
05/06/98	214	05/06/98	1
05/13/98	144	05/13/98	3
05/20/98	206	05/20/98	1
05/27/98	257	05/27/98	40
06/03/98	120	06/03/98	6
06/10/98	1,748	06/10/98	8
06/17/98	213	06/17/98	1
06/24/98	92	06/24/98	8
07/01/98	76	07/01/98	17
07/08/98	TNTC	07/08/98	TNTC
07/15/98	144	07/15/98	1
07/22/98	1,500	07/22/98	TNTC
07/29/98	18	07/29/98	1
08/05/98	510	08/05/98	2
08/12/98	88	08/12/98	1
08/19/98	--	08/19/98	--
08/26/98	--	08/26/98	--
09/02/98	TNTC	09/02/98	110
09/09/98	260	09/09/98	6
09/16/98	180	09/16/98	22
09/23/98	220	09/23/98	9
09/30/98	56	09/30/98	1
10/07/98	236	10/07/98	33
10/14/98	324	10/14/98	19
10/21/98	229	10/21/98	27
10/28/98	163	10/28/98	12
11/04/98	140	11/04/98	8
11/11/98	346	11/11/98	TNTC
11/18/98	80	11/18/98	575
05/19/99	70	10/29/97	4
07/28/99	1,700		
Site – 203; JOLIET RD D/S 001			

Table 6. Point source water quality data collected by the Interagency Task Force in the Salt Creek watershed in Porter County, Indiana, 1997-1999—Continued

Sample Date	E. coli (col/100 mL)	Sample Date	E. coli (col/100 mL)
Site – 203; JOLIET RD D/S 001			Site – 204; ST RD 130
03/18/98	2	03/18/98	1,104
03/25/98	1	03/25/98	520
04/01/98	173	04/01/98	1,000
04/08/98	15	04/08/98	284
04/15/98	870	04/15/98	536
04/22/98	422	04/22/98	172
04/29/98	495	04/29/98	176
05/06/98	148	05/06/98	79
05/13/98	244	05/13/98	152
05/20/98	285	05/20/98	168
05/27/98	202	05/27/98	152
06/03/98	194	06/03/98	123
06/10/98	277	06/10/98	272
06/17/98	233	06/17/98	112
06/24/98	67	06/24/98	328
07/01/98	79	07/01/98	58
07/08/98	TNTC	07/08/98	1,248
07/15/98	129	07/15/98	--
07/22/98	2,150	07/22/98	79
07/29/98	14	07/29/98	ERR
08/05/98	470	08/05/98	32
08/12/98	72	08/12/98	162
08/19/98	--	08/19/98	ERR
08/26/98	--	08/26/98	34
09/02/98	300	09/02/98	ERR
09/09/98	120	09/09/98	124
09/16/98	100	09/16/98	206
09/23/98	66	09/23/98	392
09/30/98	124	09/30/98	144
10/07/98	64	10/07/98	687
10/14/98	3	10/14/98	270
10/21/98	269	10/21/98	--
10/28/98	880	10/28/98	160
11/04/98	990	11/04/98	600
11/11/98	860	11/12/98	124
11/18/98	80	11/19/98	79

Table 6. Point source water quality data collected by the Interagency Task Force in the Salt Creek watershed in Porter County, Indiana, 1997-1999—Continued

Sample Date	E. coli (col/100 mL)	Sample Date	E. coli (col/100 mL)
Site – 204; ST RD 130		Site – 205; CR 200 West	
04/28/99	564	08/05/98	TNTC
05/05/99	200	08/12/98	270
05/12/99	158	08/19/98	ERR
05/17/99	292	08/26/98	54
05/25/99	142	09/02/98	30
06/09/99	600	09/09/98	214
06/16/99	248	09/16/98	80
06/23/99	352	09/23/98	ERR
07/28/99	2,140	09/30/98	426
08/11/99	750	10/07/98	300
08/25/99	1,450	10/14/98	330
08/27/99	100	10/21/98	30
09/01/99	350	10/28/98	550
09/08/99	1,150	11/04/98	110
09/15/99	800	11/12/98	216
09/29/99	2,100	11/19/98	98
11/03/99	1,050	04/14/99	137
Site – 205; CR 200 West		04/21/99	228
10/29/97	248	04/28/99	700
03/18/98	588	05/05/99	840
03/25/98	168	05/12/99	258
04/01/98	1,900	05/17/99	294
04/08/98	364	05/25/99	396
04/15/98	428	06/09/99	2,000
04/22/98	232	06/16/99	1,500
04/29/98	164	06/23/99	2,000
05/06/98	212	07/28/99	1,300
05/13/98	296	08/11/99	800
05/20/98	132	08/25/99	1,600
05/27/98	532	08/27/99	240
06/03/98	324	09/01/99	800
06/10/98	736	09/08/99	1,500
06/17/98	170	09/15/99	600
06/24/98	TNTC	09/29/99	3,700
07/01/98	344	11/03/99	940
07/08/98	960	Site – 206; Robbins Road	
07/15/98	243	10/29/97	192
07/22/98	205	03/18/98	992
07/29/98	TNTC	03/25/98	380

Table 6. Point source water quality data collected by the Interagency Task Force in the Salt Creek watershed in Porter County, Indiana, 1997-1999—Continued

Sample Date	E. coli (col/100 mL)	Sample Date	E. coli (col/100 mL)		
Site – 206; Robbins Road					
04/01/98	1,700	05/17/99	1,900		
04/08/98	236	05/25/99	300		
04/15/98	872	06/09/99	1,050		
04/22/98	372	06/16/99	450		
04/29/98	108	06/23/99	960		
05/06/98	280	07/28/99	1,240		
05/13/98	404	08/11/99	680		
05/20/98	76	08/25/99	1,160		
05/27/98	228	08/27/99	480		
06/03/98	162	09/01/99	360		
06/10/98	500	09/08/99	560		
06/17/98	ERR	09/15/99	380		
06/24/98	TNTC	09/29/99	1,860		
07/01/98	430	11/03/99	820		
07/08/98	2,880	Site – 207; Robbins Road			
07/15/98	251	10/29/97	252		
07/22/98	160	03/18/98	648		
07/29/98	134	03/25/98	16		
08/05/98	TNTC	04/01/98	280		
08/12/98	260	04/08/98	252		
08/19/98	ERR	04/15/98	440		
08/26/98	142	04/22/98	340		
09/02/98	100	04/29/98	272		
09/09/98	112	05/06/98	1,000		
09/16/98	154	05/13/98	356		
09/23/98	ERR	05/20/98	32		
09/30/98	460	05/27/98	72		
10/07/98	326	06/03/98	400		
10/14/98	220	06/10/98	702		
10/21/98	90	06/17/98	ERR		
10/28/98	880	06/24/98	125		
11/04/98	90	07/01/98	308		
11/12/98	840	07/08/98	236		
11/19/98	80	07/15/98	333		
04/14/99	33	07/22/98	51		
04/21/99	120	07/29/98	137		
04/28/99	2,000	08/05/98	TNTC		

Table 6. Point source water quality data collected by the Interagency Task Force in the Salt Creek watershed in Porter County, Indiana, 1997-1999—Continued

Sample Date	E. coli (col/100 mL)	Sample Date	E. coli (col/100 mL)
Site – 207; Robbins Road		Site – 208; Borman Expressway	
08/26/98	70	05/27/98	124
09/02/98	ERR	06/03/98	50
09/09/98	50	06/10/98	664
09/16/98	300	06/17/98	131
09/23/98	ERR	06/24/98	185
09/30/98	26	07/01/98	ERR
10/07/98	300	07/08/98	776
10/14/98	80	07/15/98	408
10/21/98	70	07/22/98	59
10/28/98	600	07/29/98	171
11/04/98	150	08/05/98	TNTC
11/12/98	223	08/12/98	66
11/19/98	32	08/19/98	ERR
04/14/99	62	08/26/98	90
04/21/99	208	09/02/98	ERR
04/28/99	2,000	09/09/98	240
05/05/99	120	09/16/98	124
05/12/99	32	09/23/98	392
05/17/99	32,400	09/30/98	160
05/25/99	250	10/07/98	580
06/09/99	900	10/14/98	150
06/16/99	50	10/21/98	110
06/23/99	1,640	10/28/98	280
07/28/99	750	11/04/98	160
08/11/99	140	11/12/98	208
08/25/99	2,730	11/19/98	72
08/27/99	12	04/14/99	92
09/01/99	160	04/21/99	68
09/08/99	300	04/28/99	480
09/15/99	60	05/05/99	100
09/29/99	2,000	05/12/99	142
11/03/99	34	05/17/99	276
Site – 208; Borman Expressway		05/25/99	172
10/29/97	164	06/09/99	430
03/18/98	692	06/16/99	620
03/25/98	288	06/23/99	570
04/01/98	224	07/28/99	470
04/08/98	248	08/11/99	290
04/15/98	932	08/25/99	1,090
04/22/98	388	09/01/99	220
04/29/98	88	09/08/99	320
05/06/98	340	09/15/99	480
05/13/98	204	09/29/99	480
05/20/98	84		

Table 7. Volume of combined sewer overflows and inches of precipitation in Valparaiso, Indiana, collected by the Lake Michigan Interagency Task Force, 1998 [--, no data; date is month/day/year; MG, million gallons]

Sample Date	Precipitation on overflow date (inches)	Precipitation day prior to overflow (inches)	Volume of Overflow (MG)
04/13/98	1.00	0.00	30.80
04/21/98	0.45	0.64	3.70
05/07/98	1.60	0.21	23.00
05/08/98	0.05	1.60	6.10
06/11/98	1.84	0.00	22.70
07/03/98	1.99	0.00	5.10
07/04/98	0.02	1.99	6.10
07/07/98	0.94	0.03	37.20
08/04/98	1.22	0.06	37.00
09/20/98	0.90	0.00	2.60

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002
[--, no data; <, less than; date is month/day/year; TP, treatment plant; Avg., Average; No., number; Min., minimum; Max., maximum]

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos. (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0024660 – Valparaiso Municipal Sewage Treatment Plant														
01/31/89	9.4	2.0	7.0	7.8	2.0	0.28	0.37	4.90	5.90	--	--	--	--	--
02/28/89	8.7	2.0	6.8	7.7	1.0	0.74	0.47	4.00	4.10	--	--	--	--	--
03/31/89	9.4	2.0	6.9	7.7	1.0	0.25	0.28	5.50	5.40	--	--	--	--	--
04/30/89	8.8	2.0	7.1	7.4	1.0	0.26	0.26	5.10	7.60	0	2	3	--	--
05/31/89	8.5	1.0	6.9	7.6	1.0	0.26	0.25	4.90	5.00	0	2	15	--	--
06/30/89	8.2	2.0	7.0	7.7	1.0	0.25	0.17	5.60	8.80	0	2	2	--	--
07/31/89	7.7	2.0	7.0	7.6	1.0	0.25	0.19	4.50	5.10	0	3	10	--	--
08/31/89	7.7	1.0	6.9	7.7	1.0	0.25	0.21	4.10	4.30	0	4	20	--	--
09/30/89	7.9	2.0	7.0	7.5	1.0	0.25	0.30	5.00	6.70	0	4	18	--	--
10/31/89	8.4	2.0	7.0	7.5	1.0	0.25	0.32	4.40	5.70	0	4	13	--	--
11/30/89	8.9	1.0	6.9	7.7	1.0	0.25	0.24	4.60	6.60	--	--	--	--	--
12/31/89	9.0	1.0	6.9	7.7	1.0	0.27	0.40	3.70	4.00	--	--	--	--	--
01/31/90	8.9	2.0	6.9	7.6	1.0	0.36	0.42	5.00	5.50	--	--	--	--	--
02/28/90	8.9	2.0	6.9	7.7	1.0	0.32	0.42	5.70	6.90	--	--	--	--	--
03/31/90	9.8	2.0	6.9	7.7	1.0	0.29	0.34	5.70	6.80	--	--	--	--	--
04/30/90	8.7	2.0	6.9	7.6	1.0	0.25	0.43	5.80	6.50	<0.01	5	11	--	--
05/31/90	8.8	2.0	6.9	7.6	1.0	0.25	0.39	6.90	9.30	0	11	26	--	--
06/30/90	8.0	2.0	7.0	7.7	1.0	0.25	0.67	4.80	5.00	0	3	4	--	--
07/31/90	8.2	2.0	7.0	7.6	1.0	0.25	0.53	5.10	5.90	<0.01	8	32	--	--
08/31/90	7.9	2.0	7.0	7.6	1.0	0.25	0.42	5.60	7.80	1	5	23	--	--
09/30/90	8.0	2.0	7.0	7.5	1.0	1.00	0.38	5.00	5.50	0	7	3	--	--
10/31/90	7.9	1.0	6.9	7.7	1.0	0.26	0.43	8.60	8.70	0	6	13	--	--
11/30/90	8.3	2.0	6.9	7.6	1.0	0.25	0.50	5.00	6.50	--	--	--	--	--
12/31/90	9.2	2.0	7.0	7.8	1.0	0.31	0.47	5.30	6.60	--	--	--	--	--
01/31/91	10.0	2.0	7.0	7.8	1.0	0.41	0.59	5.80	6.90	--	--	--	--	--
02/28/91	9.4	2.0	6.9	7.7	1.0	0.25	0.58	5.30	5.80	--	--	--	--	--
03/31/91	9.9	2.0	6.8	7.6	1.0	0.26	0.56	6.20	7.40	--	--	--	--	--
04/30/91	8.6	2.0	6.8	7.5	1.0	0.25	0.50	6.50	8.00	0	10	18	--	--
05/31/91	9.1	2.0	7.0	7.7	1.0	0.25	0.41	6.80	8.70	0	22	40	--	--
06/30/91	8.0	2.0	6.9	7.4	1.0	0.25	0.52	4.90	6.80	--	5	18	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002—Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0024660 – Valparaiso Municipal Sewage Treatment Plant														
08/31/91	8.8	2.0	7.0	7.6	1.0	0.25	0.65	4.70	5.60	0	5	11	--	--
09/30/91	7.6	1.0	6.7	7.5	1.0	0.26	0.75	4.60	5.20	0	8	10	--	--
10/31/91	8.7	1.0	6.9	7.7	1.0	0.27	0.68	7.10	9.00	0	18	26	--	--
11/30/91	9.4	2.0	7.0	7.8	2.0	0.25	0.45	6.10	7.90	--	--	--	--	--
12/31/91	9.6	2.0	7.0	7.6	1.0	1.00	0.39	5.60	7.00	--	--	--	--	--
01/31/92	9.7	2.0	6.8	7.4	1.0	0.34	0.66	4.70	5.10	--	--	--	--	--
02/29/92	9.9	2.0	6.9	7.5	1.0	0.30	0.69	5.70	6.80	--	--	--	--	--
03/31/92	9.8	1.0	7.0	7.5	1.0	0.25	0.52	6.00	7.80	--	--	--	--	--
04/30/92	9.8	1.0	6.9	7.6	1.0	0.25	0.52	5.40	6.00	0	5	11	--	--
05/31/92	8.6	1.0	7.0	7.6	1.0	0.25	0.78	4.20	4.60	0	14	36	--	--
06/30/92	8.7	2.0	7.0	7.7	1.0	0.25	0.74	4.70	5.10	0	17	40	--	--
07/31/92	8.2	2.0	6.9	7.6	1.0	0.25	0.50	5.50	6.60	0	11	33	--	--
08/31/92	8.3	1.0	7.0	8.1	1.0	0.25	0.59	4.60	5.00	0	6	11	--	--
09/30/92	8.4	2.0	7.0	7.5	1.0	0.25	0.62	5.90	6.20	0	27	77	--	--
10/31/92	8.9	2.0	6.9	7.6	1.0	0.25	0.54	4.50	6.30	0	34	41	--	--
11/30/92	9.7	2.0	6.8	7.5	1.0	0.25	0.51	6.50	8.00	--	--	--	--	--
12/31/92	10.9	1.0	6.8	7.6	1.0	0.25	0.52	5.10	5.90	--	--	--	--	--
01/31/93	10.7	2.0	6.6	7.4	2.0	0.32	0.39	6.70	8.60	--	--	--	--	--
02/28/93	9.9	2.0	6.4	7.4	3.0	0.26	0.66	4.40	4.50	--	--	--	--	--
03/31/93	10.4	2.0	6.5	7.6	2.0	0.32	0.41	7.10	8.20	--	--	--	--	--
04/30/93	9.5	2.0	6.8	7.2	3.0	0.33	0.47	7.50	9.00	0	7	28	--	--
05/31/93	9.0	2.0	6.8	7.6	1.0	0.25	0.62	5.00	5.60	<0.01	17	22	--	--
06/30/93	8.6	1.0	6.2	7.4	1.0	0.27	0.48	6.80	8.00	<0.01	23	44	--	--
07/31/93	8.5	2.0	7.0	7.6	1.0	0.25	0.53	5.50	7.90	<0.01	21	35	8.7	1
08/31/93	8.3	2.0	6.9	7.4	1.0	0.25	0.56	5.30	6.00	<0.01	80	15	14.0	1
09/30/93	7.6	2.0	6.7	7.4	1.0	0.25	0.45	6.80	8.70	<0.01	37	34	63.0	4
10/31/93	9.1	1.0	6.9	7.6	0.7	0.13	0.52	6.20	8.70	0	14	34	28.9	2
11/30/93	9.7	1.3	6.8	7.6	0.8	0.18	0.56	6.20	7.40	--	--	--	4.6	1
12/31/93	9.8	1.0	6.9	7.8	1.0	0.13	0.62	4.90	6.00	--	--	--	0.0	0
01/31/94	9.9	2.0	7.0	7.6	2.0	0.19	0.54	5.00	6.00	--	--	--	8.2	1

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0024660 – Valparaiso Municipal Sewage Treatment Plant														
03/31/94	9.4	2.0	6.9	7.7	2.0	0.20	0.54	5.70	7.30	--	--	--	0.0	0
04/30/94	8.9	2.0	6.5	7.6	1.0	0.16	0.62	5.80	7.00	<0	41	74	0.0	0
05/31/94	8.7	2.0	6.6	7.4	1.0	0.15	0.90	4.40	5.20	<0.01	17	30	0.0	0
06/30/94	8.1	1.0	6.8	7.5	1.0	0.22	0.71	5.20	6.70	<0.01	8	15	12.9	4
07/31/94	8.3	1.0	6.9	7.5	1.0	0.17	0.68	5.40	6.50	<0.01	5	9	23.6	4
08/31/94	8.7	1.0	6.9	7.4	1.0	0.02	0.70	5.10	5.90	0	7	10	0.6	1
09/30/94	8.6	1.0	6.8	7.6	1.0	0.03	0.78	4.40	4.80	0	5	6	0.0	0
10/31/94	9.0	1.0	7.0	7.6	1.0	0.02	0.64	4.60	5.60	0	2	4	7.6	1
11/30/94	9.4	1.0	6.9	7.9	1.0	0.00	0.54	5.70	7.60	--	--	--	12.2	2
12/31/94	9.4	1.0	6.9	7.7	0.6	0.11	0.69	4.80	5.80	--	--	--	10.3	1
01/31/95	10.0	2.0	6.8	7.8	0.5	0.07	0.56	5.60	7.50	--	--	--	5.9	1
02/28/95	10.0	2.0	6.8	7.6	1.0	0.04	0.62	4.50	5.30	--	--	--	0.0	0
03/31/95	9.5	2.0	6.9	7.9	1.0	0.17	0.57	5.20	6.20	--	--	--	4.2	1
04/30/95	9.7	2.0	6.8	7.6	1.0	0.10	0.48	6.60	8.90	0	19	41	53.7	4
05/31/95	9.2	1.0	6.8	9.0	1.0	0.08	0.63	5.90	7.40	0	11	24	4.5	1
06/30/95	8.9	1.0	7.0	7.5	1.0	0.05	0.61	5.80	6.80	0	9	13	24.2	4
07/31/95	8.2	1.0	6.8	7.5	1.0	0.00	0.63	5.20	8.10	0	10	14	0.9	1
08/31/95	7.3	1.0	6.6	7.5	0.0	0.00	0.63	5.00	6.30	0	6	8	5.1	1
09/30/95	6.6	1.0	6.7	7.4	1.0	0.00	0.66	3.60	4.10	0	13	23	0.0	0
10/31/95	8.6	1.0	6.5	7.7	1.0	0.00	0.70	3.90	3.90	0	14	30	0.0	0
11/30/95	6.0	1.0	6.6	7.3	1.0	0.12	0.62	4.10	6.00	--	--	--	45.8	2
12/31/95	7.0	1.0	6.8	7.5	1.0	0.08	0.69	3.10	3.20	--	--	--	0.0	0
01/31/96	8.6	2.1	6.7	7.5	1.0	0.26	0.07	3.20	4.40	--	--	--	0.0	0
02/29/96	8.1	3.3	6.4	9.0	3.0	0.44	0.78	3.70	4.50	--	--	--	11.0	1
03/31/96	8.0	2.4	6.4	7.6	1.5	0.38	0.54	3.80	4.30	--	--	--	0.0	0
04/30/96	8.4	2.0	7.0	7.6	1.3	0.26	0.61	4.70	6.30	<0.01	4	9	14.1	1
05/31/96	8.8	1.8	6.9	7.5	1.4	0.26	0.46	5.80	11.30	<0.01	15	37	13.6	5
06/30/96	7.1	2.0	6.9	7.3	2.0	0.26	0.42	6.40	7.50	0	11	17	28.4	3
07/31/96	8.1	2.0	6.8	7.5	1.5	0.25	0.52	5.20	6.60	<0.01	9	11	47.8	3
08/31/96	7.6	1.8	7.0	7.5	1.4	0.29	0.65	4.60	5.10	0	13	74	0.0	0

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0024660 – Valparaiso Municipal Sewage Treatment Plant														
03/31/94	9.4	2.0	6.9	7.7	2.0	0.20	0.54	5.70	7.30	--	--	--	0.0	0
04/30/94	8.9	2.0	6.5	7.6	1.0	0.16	0.62	5.80	7.00	<0	41	74	0.0	0
05/31/94	8.7	2.0	6.6	7.4	1.0	0.15	0.90	4.40	5.20	<0.01	17	30	0.0	0
06/30/94	8.1	1.0	6.8	7.5	1.0	0.22	0.71	5.20	6.70	<0.01	8	15	12.9	4
07/31/94	8.3	1.0	6.9	7.5	1.0	0.17	0.68	5.40	6.50	<0.01	5	9	23.6	4
08/31/94	8.7	1.0	6.9	7.4	1.0	0.02	0.70	5.10	5.90	0	7	10	0.6	1
09/30/94	8.6	1.0	6.8	7.6	1.0	0.03	0.78	4.40	4.80	0	5	6	0.0	0
10/31/94	9.0	1.0	7.0	7.6	1.0	0.02	0.64	4.60	5.60	0	2	4	7.6	1
11/30/94	9.4	1.0	6.9	7.9	1.0	0.00	0.54	5.70	7.60	--	--	--	12.2	2
12/31/94	9.4	1.0	6.9	7.7	0.6	0.11	0.69	4.80	5.80	--	--	--	10.3	1
01/31/95	10.0	2.0	6.8	7.8	0.5	0.07	0.56	5.60	7.50	--	--	--	5.9	1
02/28/95	10.0	2.0	6.8	7.6	1.0	0.04	0.62	4.50	5.30	--	--	--	0.0	0
03/31/95	9.5	2.0	6.9	7.9	1.0	0.17	0.57	5.20	6.20	--	--	--	4.2	1
04/30/95	9.7	2.0	6.8	7.6	1.0	0.10	0.48	6.60	8.90	0	19	41	53.7	4
05/31/95	9.2	1.0	6.8	9.0	1.0	0.08	0.63	5.90	7.40	0	11	24	4.5	1
06/30/95	8.9	1.0	7.0	7.5	1.0	0.05	0.61	5.80	6.80	0	9	13	24.2	4
07/31/95	8.2	1.0	6.8	7.5	1.0	0.00	0.63	5.20	8.10	0	10	14	0.9	1
08/31/95	7.3	1.0	6.6	7.5	0.0	0.00	0.63	5.00	6.30	0	6	8	5.1	1
09/30/95	6.6	1.0	6.7	7.4	1.0	0.00	0.66	3.60	4.10	0	13	23	0.0	0
10/31/95	8.6	1.0	6.5	7.7	1.0	0.00	0.70	3.90	3.90	0	14	30	0.0	0
11/30/95	6.0	1.0	6.6	7.3	1.0	0.12	0.62	4.10	6.00	--	--	--	45.8	2
12/31/95	7.0	1.0	6.8	7.5	1.0	0.08	0.69	3.10	3.20	--	--	--	0.0	0
01/31/96	8.6	2.1	6.7	7.5	1.0	0.26	0.07	3.20	4.40	--	--	--	0.0	0
02/29/96	8.1	3.3	6.4	9.0	3.0	0.44	0.78	3.70	4.50	--	--	--	11.0	1
03/31/96	8.0	2.4	6.4	7.6	1.5	0.38	0.54	3.80	4.30	--	--	--	0.0	0
04/30/96	8.4	2.0	7.0	7.6	1.3	0.26	0.61	4.70	6.30	<0.01	4	9	14.1	1
05/31/96	8.8	1.8	6.9	7.5	1.4	0.26	0.46	5.80	11.30	<0.01	15	37	13.6	5
06/30/96	7.1	2.0	6.9	7.3	2.0	0.26	0.42	6.40	7.50	0	11	17	28.4	3
07/31/96	8.1	2.0	6.8	7.5	1.5	0.25	0.52	5.20	6.60	<0.01	9	11	47.8	3
08/31/96	7.6	1.8	7.0	7.5	1.4	0.29	0.65	4.60	5.10	0	13	74	0.0	0

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0024660 – Valparaiso Municipal Sewage Treatment Plant														
10/31/96	8.0	2.0	6.9	7.4	1.6	<0.25	0.39	5.00	5.50	<0.01	22	32	0.0	0
11/30/96	8.3	2.0	6.8	7.6	1.1	0.25	0.48	4.50	5.30	--	--	--	2.9	3
12/31/96	8.8	2.5	6.7	7.5	2.9	0.26	0.53	5.20	6.10	--	--	--	5.4	1
05/31/97	9.7	2.2	6.8	7.5	1.4	0.18	0.39	5.60	5.90	0	34	109	2.0	2
06/30/97	8.7	2.0	6.9	7.5	1.5	0.17	0.40	6.00	6.90	0	4	6	13.5	3
07/31/97	7.4	1.8	6.9	7.7	2.4	0.18	0.47	4.90	5.80	0	18	26	--	--
08/31/97	7.0	2.0	6.8	7.5	1.5	0.13	0.62	5.10	6.50	0	7	8	10.4	2
09/30/97	7.1	2.1	6.8	7.4	1.3	0.58	0.48	4.80	6.40	0	10	18	1.4	1
10/31/97	6.7	2.1	6.9	7.5	1.5	0.21	0.67	4.20	4.80	0	26	44	--	--
11/30/97	8.2	2.0	7.0	7.6	1.2	0.13	0.78	3.90	4.10	--	--	--	--	--
12/31/97	7.7	2.1	7.0	7.8	1.3	0.13	0.59	4.20	4.70	--	--	--	--	--
01/31/98	8.8	2.2	7.0	7.7	1.4	0.14	0.33	5.30	6.90	--	--	--	74.9	4
02/28/98	9.7	2.1	7.0	7.9	1.2	0.14	0.38	5.00	5.80	--	--	--	5.1	1
03/31/98	9.4	2.5	7.1	7.7	1.3	0.16	0.35	5.90	7.04	--	--	--	23.0	9
04/30/98	9.4	2.1	7.0	7.5	1.3	0.07	0.38	5.40	5.70	1	11	33	17.2	2
05/31/98	8.5	2.0	7.1	7.6	1.2	0.10	0.48	4.10	6.10	0	6	10	17.0	2
06/30/98	7.8	2.0	6.7	7.6	1.2	0.03	0.66	3.90	4.80	0	11	36	22.7	1
07/31/98	7.6	2.1	7.0	7.6	1.6	0.18	0.42	4.00	5.30	0	15	28	47.4	3
08/31/98	7.0	2.0	6.8	7.5	1.1	0.11	0.41	3.50	4.70	0	4	7	87.0	1
09/30/98	8.0	2.0	6.8	7.6	1.0	0.10	0.72	3.30	3.60	0	12	17	2.6	1
10/31/98	8.0	2.1	6.9	7.7	1.1	0.13	0.62	3.30	3.90	0	18	36	--	--
11/30/98	8.0	2.0	7.0	7.8	1.1	0.12	0.56	3.00	3.70	--	--	--	--	--
12/31/98	9.0	2.1	7.1	7.8	1.2	0.07	0.42	3.10	3.60	--	--	--	30.8	1
01/31/99	9.7	2.7	7.0	7.7	2.8	0.27	0.38	3.94	6.80	--	--	--	71.7	1
02/28/99	9.3	2.5	7.0	7.7	1.6	0.29	0.41	3.70	4.40	--	--	--	--	--
03/31/99	8.6	2.4	7.1	7.7	1.9	0.23	0.50	3.40	4.00	--	--	--	--	--
04/30/99	9.0	2.3	6.8	7.4	2.8	0.22	0.60	5.10	6.80	0	18	39	132.4	3
05/31/99	8.5	2.0	6.8	7.5	1.7	0.08	0.62	3.20	3.90	0	25	46	--	--
06/30/99	8.0	2.1	6.9	7.5	1.4	0.07	0.64	3.20	3.40	0	14	44	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0024660 – Valparaiso Municipal Sewage Treatment Plant														
09/30/99	8.0	2.0	6.9	7.6	1.2	0.07	0.95	2.97	2.96	0	7	17	--	--
10/31/99	8.9	2.0	7.0	8.3	1.2	0.07	0.62	3.10	3.95	0	5	10	--	--
11/30/99	9.3	2.0	7.1	7.8	1.4	0.08	0.66	2.80	2.90	--	--	--	--	--
12/31/99	9.3	2.2	7.0	7.7	1.6	0.13	0.51	4.60	5.10	--	--	--	--	--
01/31/00	10.3	2.1	7.2	8.6	1.3	0.07	0.44	4.20	4.50	--	--	--	--	--
02/29/00	10.1	2.5	7.0	8.5	1.7	0.11	0.64	5.40	7.80	--	--	--	--	--
03/31/00	9.6	2.0	6.8	7.7	1.6	0.15	0.48	4.80	5.70	--	--	--	--	--
04/30/00	9.5	2.1	6.8	7.5	1.3	0.15	0.53	5.90	6.40	0	9	23	--	--
05/31/00	8.6	2.0	6.9	7.6	1.0	0.10	0.42	5.30	5.20	0	10	25	4.1	1
06/30/00	8.0	2.0	6.9	7.5	1.2	0.11	0.50	7.10	8.50	0	11	18	63.3	6
07/31/00	11.0	2.2	6.7	7.6	1.1	0.49	0.58	5.00	5.40	0	9	10	--	--
08/31/00	11.0	2.0	6.9	10.2	1.1	0.06	0.89	4.70	5.30	0	4	10	--	1
09/30/00	11.9	2.0	7.0	7.8	1.1	0.11	0.44	4.70	5.80	0	9	41	--	--
10/31/00	11.0	2.0	6.8	7.6	1.0	0.05	0.43	4.80	6.10	0	8	8	--	--
11/30/00	11.9	2.0	6.9	8.3	1.1	0.04	0.46	4.50	5.60	--	--	--	--	--
12/31/00	7.0	2.3	7.0	7.8	1.8	0.06	0.40	4.00	4.10	--	--	--	--	--
01/31/01	9.7	3.8	6.9	7.8	2.6	0.26	0.71	4.70	5.00	--	--	--	--	--
02/28/01	9.8	3.0	6.9	7.6	1.6	0.42	0.34	6.20	7.60	--	--	--	--	--
03/31/01	9.6	2.7	6.7	7.7	1.5	0.49	0.43	4.60	4.90	--	--	--	--	--
04/30/01	9.6	2.4	6.9	7.4	2.0	0.06	0.49	5.20	5.60	0	8	13	--	--
05/31/01	9.8	2.1	6.9	7.6	1.4	0.06	0.48	5.32	6.30	0	12	21	--	--
06/30/01	10.1	--	7.0	7.5	1.4	0.16	0.51	5.40	6.10	0	11	21	--	--
07/31/01	10.1	--	7.0	7.4	1.6	0.10	0.62	5.70	8.40	0	24	45	--	--
08/31/01	11.3	--	6.9	7.5	1.4	0.01	0.44	5.60	6.90	0	6	10	--	--
09/30/01	11.8	--	7.0	7.6	1.4	0.06	0.47	5.60	6.10	0	7	11	--	--
10/31/01	7.4	--	7.0	7.5	1.0	0.04	0.39	7.40	8.30	0	10	12	--	--
11/30/01	12.0	--	7.2	7.8	2.0	0.04	0.40	5.50	6.40	--	--	--	--	--
12/31/01	11.6	--	7.1	7.9	2.3	0.14	0.28	4.60	4.90	--	--	--	--	--
01/31/02	11.3	--	7.1	7.9	1.4	0.21	0.51	4.00	4.10	--	--	--	--	--
02/28/02	11.3	--	7.1	7.8	3.6	0.24	0.39	5.20	5.60	--	--	--	--	--
03/31/02	11.1	--	7.2	7.8	4.4	0.36	0.34	4.10	5.70	--	--	--	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0030651 – South Haven Sewer Works, Inc.														
01/31/89	8.2	3.2	7.7	7.9	1.7	1.10	0.60	1.42	1.82	--	--	--	--	--
02/28/89	8.2	4.0	7.8	8.1	4.0	3.00	0.50	1.14	1.23	--	--	--	--	--
03/31/89	8.5	5.0	6.9	7.9	6.0	0.37	0.41	1.71	1.78	--	--	--	--	--
04/30/89	8.5	3.3	7.7	7.9	4.3	0.23	0.49	1.29	1.56	1	15	136	--	--
05/31/89	8.4	5.0	7.7	7.9	4.0	0.10	0.70	1.04	1.08	0	67	270	--	--
06/30/89	7.5	5.0	7.4	7.9	12.5	0.60	0.50	1.15	1.84	1	25	958	--	--
07/31/89	6.6	6.6	7.7	8.0	4.3	1.46	0.44	0.93	0.96	1	21	125	--	--
08/31/89	6.6	5.0	7.7	8.0	3.0	0.06	0.43	0.91	0.95	1	144	380	--	--
09/30/89	6.8	3.2	7.6	7.9	1.6	0.55	0.23	1.06	1.23	1	109	388	--	--
10/31/89	6.8	6.5	7.3	7.7	7.4	3.70	0.36	0.88	0.98	1	70	156	--	--
11/30/89	5.5	8.2	7.3	7.7	6.6	10.90	0.83	0.95	1.12	--	--	--	--	--
12/31/89	8.5	6.0	7.1	7.7	8.0	1.10	0.70	0.88	0.91	--	--	--	--	--
01/31/90	8.5	6.0	7.1	7.7	8.0	1.10	0.70	0.88	0.91	--	--	--	--	--
02/28/90	9.0	3.4	7.5	7.9	5.5	0.30	0.61	1.34	1.68	--	--	--	--	--
03/31/90	8.2	5.5	7.5	7.9	4.6	0.86	0.61	1.37	1.45	--	--	--	--	--
04/30/90	8.0	4.1	7.6	7.9	10.0	0.80	0.53	1.37	1.48	1	162	234	--	--
05/31/90	7.7	5.6	7.5	7.7	13.0	0.06	0.70	1.38	1.61	0	105	204	--	--
06/30/90	6.4	6.9	7.5	7.9	19.1	0.08	1.30	1.14	1.24	0	199	1,321	--	--
07/31/90	5.1	3.4	7.4	7.8	13.5	0.08	1.10	1.14	1.26	--	139	343	--	--
08/31/90	5.4	3.2	7.4	7.8	12.3	0.26	1.00	1.11	1.43	--	124	184	--	--
09/30/90	6.1	2.7	7.5	7.8	7.7	0.12	1.10	0.99	1.08	--	176	538	--	--
10/31/90	6.5	1.8	7.3	7.7	5.4	0.12	0.64	1.27	1.64	--	95	155	--	--
11/30/90	7.3	2.5	7.2	7.8	3.5	0.92	0.54	1.28	1.56	--	--	--	--	--
12/31/90	7.1	3.2	7.5	7.7	9.2	0.15	0.71	1.29	1.65	--	--	--	--	--
01/31/91	7.8	2.4	7.5	7.8	3.4	0.43	0.43	1.22	1.44	--	--	--	--	--
02/28/91	7.7	14.6	7.2	7.7	16.6	1.40	0.84	1.32	1.50	--	--	--	--	--
03/31/91	8.0	9.4	7.1	7.8	7.8	1.30	0.65	1.58	1.74	--	--	--	--	--
04/30/91	7.3	5.1	7.2	7.8	4.3	1.40	0.62	1.39	1.74	0	42	97	--	--
05/31/91	6.8	21.8	7.2	7.7	12.6	2.31	0.75	1.45	1.58	0	47	231	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0030651 – South Haven Sewer Works, Inc.														
07/31/91	5.5	12.4	7.4	7.8	8.5	2.30	0.72	1.00	1.06	0	32	90	--	--
08/31/91	5.8	3.3	7.2	7.7	4.0	0.33	0.52	1.01	1.07	0	48	279	--	--
09/30/91	6.4	4.1	7.4	7.7	5.4	0.58	0.43	0.99	1.04	0	95	311	--	--
10/31/91	6.7	9.3	6.2	7.8	19.9	0.46	1.12	1.28	1.33	0	90	138	--	--
12/31/91	7.7	3.8	7.0	7.9	6.9	0.36	0.68	1.59	1.81	--	--	--	--	--
01/31/92	7.4	13.9	6.4	7.8	6.1	3.60	0.71	1.32	1.48	--	--	--	--	--
02/29/92	7.8	3.6	7.2	7.9	2.4	0.35	0.62	1.50	1.64	--	--	--	--	--
03/31/92	8.2	4.1	7.0	8.0	4.7	0.50	0.69	1.51	1.57	--	--	--	--	--
04/30/92	7.4	3.5	6.7	7.9	6.0	0.12	1.00	1.37	1.99	0	126	10	--	--
05/31/92	7.6	8.0	7.5	7.8	12.2	0.57	0.47	1.17	1.23	0	12	25	--	--
06/30/92	7.2	4.8	7.4	7.7	7.3	0.14	0.46	1.03	1.14	0	26	83	--	--
07/31/92	6.2	6.0	7.2	8.0	4.0	0.29	0.29	1.12	1.15	0	5	15	--	--
08/31/92	6.8	6.2	7.0	7.7	2.2	0.60	0.31	1.08	1.12	0	4	14	--	--
09/30/92	6.6	4.1	7.1	7.5	3.4	0.10	0.30	1.21	1.36	<0.01	3	4	--	--
10/31/92	7.1	3.5	6.8	7.8	2.1	0.20	0.30	1.04	1.15	0	3	7	--	--
11/30/92	7.5	3.7	6.8	7.3	2.1	0.07	0.30	1.61	1.83	--	--	--	--	--
12/31/92	7.1	3.7	6.4	7.2	1.7	0.26	0.36	1.42	1.64	--	--	--	--	--
01/31/93	8.1	3.3	6.4	6.9	1.0	0.50	0.40	1.76	1.86	--	--	--	--	--
02/28/93	7.5	3.7	6.5	7.2	1.6	0.80	0.60	1.10	1.30	--	--	--	--	--
03/31/93	7.4	3.5	6.5	7.2	3.5	0.20	0.30	1.55	1.70	--	--	--	--	--
04/30/93	7.9	2.7	6.9	7.7	1.2	0.10	0.40	1.45	1.89	<0.01	2	11	--	--
05/31/93	7.2	4.1	7.6	7.7	4.3	0.20	0.40	0.92	1.05	<0.01	1	2	--	--
06/30/93	6.1	6.1	7.4	7.8	2.9	0.50	0.30	1.28	1.56	<0.01	3	56	--	--
07/31/93	5.5	6.1	7.6	7.8	8.5	0.50	0.50	1.04	1.59	<0.01	7	12	--	--
08/31/93	6.4	4.6	7.5	7.7	5.1	0.60	0.30	0.93	1.36	<0.01	4	14	--	--
09/30/93	6.8	3.7	7.2	7.8	2.0	1.00	0.40	1.30	1.66	<0.01	2	7	--	--
10/31/93	6.2	2.0	7.4	7.8	1.5	0.70	0.70	1.10	1.60	<0.01	5	10	--	--
11/30/93	6.3	2.1	7.3	7.7	1.1	0.50	0.40	1.20	1.40	--	--	--	--	--
12/31/93	8.1	1.9	7.4	8.0	1.4	0.20	0.50	1.10	1.40	--	--	--	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0030651 – South Haven Sewer Works, Inc.														
02/28/94	8.7	--	7.2	7.9	4.2	1.00	0.50	1.10	1.10	--	--	--	--	--
03/31/94	8.8	--	7.7	7.9	2.6	0.90	0.50	1.40	1.70	--	--	--	--	--
04/30/94	9.2	--	7.5	7.8	2.0	0.60	0.50	1.40	1.90	0	--	--	9	4
05/31/94	7.9	--	7.4	7.9	3.5	0.50	0.60	1.10	1.20	<0.03	--	--	--	--
06/30/94	8.7	--	7.0	8.0	5.3	0.30	0.80	1.10	1.30	<0.03	--	--	9	2
07/31/94	7.2	--	6.7	8.0	5.9	0.40	0.60	0.98	1.00	<0.03	--	--	--	--
08/31/94	7.2	--	7.6	7.9	6.6	0.60	0.60	1.00	1.10	<0.03	--	--	--	--
09/30/94	7.2	--	7.7	7.8	3.9	0.20	0.70	0.95	1.00	<0.03	--	--	--	--
10/31/94	7.8	--	7.7	8.3	11.5	1.00	0.50	0.90	1.00	<0.03	--	--	9	1
11/30/94	8.1	--	7.6	8.1	3.9	1.70	0.60	1.10	1.50	--	--	--	9	7
12/31/94	7.3	--	7.0	8.1	6.4	0.70	0.70	1.30	1.50	--	--	--	3.0	--
01/31/95	6.5	--	7.2	7.8	9.0	0.40	0.70	1.60	1.80	--	--	--	--	5
02/28/95	6.5	--	7.2	8.2	2.4	0.40	0.80	0.90	1.40	--	--	--	9	5
03/31/95	7.4	--	7.3	8.3	2.8	0.40	0.80	1.10	1.30	--	--	--	--	--
04/30/95	6.7	--	7.0	8.2	3.5	0.20	0.40	1.60	2.00	<0.03	--	--	--	--
05/31/95	8.2	--	7.0	7.8	3.0	0.20	0.40	1.22	1.40	<0.03	--	--	--	--
06/30/95	6.0	--	7.3	8.0	5.6	0.40	0.60	1.10	1.20	0	--	--	--	--
07/31/95	8.1	--	7.2	7.9	5.1	5.10	0.40	1.10	1.20	--	--	--	--	--
08/31/95	7.1	--	7.4	8.2	4.2	1.00	0.30	1.24	1.40	<0.03	--	--	0.0	0
09/30/95	7.3	--	7.7	8.4	3.2	1.00	0.20	1.10	1.20	<0.03	--	--	--	--
10/31/95	7.6	--	7.7	8.6	2.5	0.40	0.30	1.10	1.11	<0.03	--	--	--	--
11/30/95	5.8	--	7.2	8.2	4.3	0.50	0.50	1.30	1.30	--	--	--	--	--
12/31/95	8.7	--	7.2	8.0	5.1	0.86	0.27	1.12	1.21	--	--	--	--	--
01/31/96	7.9	--	7.3	8.4	4.5	1.60	0.30	1.22	1.30	--	--	--	--	--
02/29/96	8.6	--	7.2	8.0	4.9	0.71	0.23	1.26	1.90	--	--	--	--	--
03/31/96	6.2	--	7.4	8.1	3.6	2.00	0.25	1.16	1.27	--	--	--	--	--
04/30/96	9.3	--	6.9	8.4	6.4	1.10	0.30	1.60	2.50	<0.03	100	794	--	--
05/31/96	6.0	--	7.1	8.8	5.2	0.49	0.84	2.60	3.12	0	9	17	--	--
06/30/96	7.6	--	7.2	8.6	8.2	0.60	0.50	2.30	2.70	<0.03	2	4	--	--
07/31/96	6.7	--	7.0	8.9	7.2	1.20	0.21	1.32	1.82	<0.03	10	28	--	--
08/31/96	8.9	--	7.7	8.9	4.8	0.44	0.30	1.09	1.32	<0.03	4	10	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0030651 – South Haven Sewer Works, Inc.														
10/31/96	8.7	--	7.2	8.9	5.3	0.39	0.47	1.04	1.10	<0.03	2	4	--	--
11/30/96	8.5	--	7.2	8.8	4.9	0.70	0.90	1.24	1.30	--	--	--	--	--
12/31/96	7.9	--	7.2	8.8	6.1	0.80	0.30	1.57	1.75	--	--	--	--	--
05/31/97	7.9	2.0	7.1	7.8	5.4	30.10	0.20	1.13	1.29	0	5	44	--	--
06/30/97	8.6	1.4	7.4	7.8	4.0	21.60	0.40	1.48	1.88	0	2	6	--	--
07/31/97	8.0	1.3	7.3	7.8	3.0	15.30	0.45	1.10	1.02	0	2	12	--	--
08/31/97	7.2	2.0	7.3	7.8	3.4	6.10	0.80	1.02	1.21	0	8	53	--	--
09/30/97	8.5	1.4	7.1	7.9	2.6	1.60	0.90	0.93	0.99	0	4	26	--	--
10/31/97	8.9	1.4	7.2	7.6	3.0	1.00	0.60	0.89	1.02	0	26	49	--	--
11/30/97	10.4	2.7	7.0	7.3	4.1	2.20	0.20	0.93	1.00	--	--	--	--	--
12/31/97	10.6	3.4	6.6	7.3	6.0	2.40	0.75	1.08	1.33	--	--	--	--	--
01/31/98	9.0	2.7	6.9	7.5	3.5	2.30	0.30	1.65	3.19	--	--	--	--	--
02/28/98	9.7	4.0	6.8	7.4	5.4	7.50	0.50	1.42	1.70	--	--	--	--	--
03/31/98	8.2	2.7	7.1	7.4	3.0	3.30	0.20	1.88	2.83	--	--	--	--	--
04/30/98	6.6	1.5	6.7	7.4	3.7	6.10	0.40	1.53	1.97	0	3	17	--	--
05/31/98	6.7	2.2	6.7	7.5	3.1	2.20	0.50	1.30	2.04	0	9	16	--	--
06/30/98	8.3	3.5	7.0	7.5	4.3	2.90	0.28	0.95	1.08	0	6	37	--	--
07/31/98	7.8	2.0	6.6	7.5	3.6	1.20	0.70	1.01	1.34	0	11	20	--	--
08/31/98	7.6	1.8	7.0	7.6	2.0	0.12	0.46	0.95	1.20	0	11	53	--	--
09/30/98	7.4	1.7	6.9	7.5	2.3	0.09	0.48	0.81	0.86	0	27	41	--	--
10/31/98	8.0	1.6	6.8	7.5	3.0	0.17	0.42	0.86	0.90	0	22	60	--	--
11/30/98	8.2	1.8	6.8	7.5	3.3	0.38	0.43	0.85	0.86	--	--	--	--	--
12/31/98	9.2	1.7	6.7	7.5	4.9	1.10	0.60	0.95	1.17	--	--	--	--	--
01/31/99	8.1	1.8	7.0	7.4	2.5	0.30	0.20	1.46	2.51	--	--	--	--	--
02/28/99	8.7	1.8	6.9	7.2	4.0	1.00	0.60	1.13	1.27	--	--	--	--	--
03/31/99	7.6	1.7	7.0	7.4	1.7	0.50	0.20	1.34	1.80	--	--	--	--	--
04/30/99	8.2	1.2	6.9	7.4	1.4	0.80	0.40	1.61	2.27	0	2	3	--	--
05/31/99	8.0	1.3	6.8	7.2	2.5	0.60	0.40	0.98	1.12	0	2	2	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0030651 – South Haven Sewer Works, Inc.														
08/31/99	8.3	1.7	6.8	7.2	2.1	0.30	0.30	0.82	0.87	0	6	27	--	--
09/30/99	7.8	2.6	6.7	7.5	3.7	0.50	0.80	0.76	0.79	0	7	10	--	--
10/31/99	8.8	1.6	7.0	7.5	2.7	1.00	0.30	0.80	0.83	0	4	12	--	--
11/30/99	7.6	1.9	7.0	7.3	3.8	0.60	0.20	0.79	0.84	--	--	--	--	--
12/31/99	8.0	1.4	6.7	7.8	3.5	0.60	0.20	0.87	0.94	--	--	--	--	--
01/31/00	6.3	2.2	6.7	7.2	6.2	0.40	0.40	0.85	0.89	--	--	--	--	--
02/29/00	6.8	1.9	6.8	7.2	2.5	0.20	0.40	1.19	1.79	--	--	--	--	--
03/31/00	6.8	2.0	6.8	7.2	2.9	0.50	0.40	1.00	1.32	--	--	--	--	--
04/30/00	6.5	1.9	6.9	7.3	1.9	0.20	0.30	1.29	1.80	0	6	11	--	--
05/31/00	7.7	1.5	6.7	7.1	1.3	0.20	0.30	0.96	1.03	0	5	7	--	--
06/30/00	7.4	1.4	6.9	7.2	1.3	0.20	0.30	1.63	1.98	0	1	1	--	--
07/31/00	7.0	1.0	6.7	7.4	1.0	0.20	0.10	0.98	1.28	0	2	2	--	--
08/31/00	7.9	1.1	6.9	7.2	1.7	0.20	0.50	0.79	0.80	0	4	6	--	--
09/30/00	7.3	1.4	7.0	7.4	1.9	0.20	0.40	0.92	0.98	0	2	3	--	--
10/31/00	6.8	1.3	6.8	7.2	1.6	0.10	0.40	0.85	0.94	0	2	3	--	--
11/30/00	9.4	1.3	6.9	7.4	1.3	0.10	0.30	0.90	0.97	--	--	--	--	--
12/31/00	6.6	1.2	6.9	7.2	1.6	0.20	0.30	0.87	0.94	--	--	--	--	--
01/31/01	6.6	1.3	6.8	7.5	1.5	0.20	0.20	1.26	1.91	--	--	--	--	--
02/28/01	7.0	1.2	7.0	7.3	1.4	0.20	0.50	1.82	2.48	--	--	--	--	--
03/31/01	6.1	1.2	7.0	7.4	1.4	0.10	0.40	1.13	1.30	--	--	--	--	--
04/30/01	7.0	1.3	6.9	7.2	2.9	0.30	0.40	1.02	1.16	0	28	944	--	--
05/31/01	6.5	1.6	6.9	7.7	2.2	0.20	0.10	1.02	1.36	0	10	450	--	--
06/30/01	8.0	1.3	6.6	7.3	1.8	0.20	0.40	1.06	1.44	0	11	138	--	--
07/31/01	6.2	1.5	6.7	7.2	1.7	0.20	0.30	0.83	0.99	0	7	100	--	--
08/31/01	6.0	1.3	6.7	7.2	1.4	0.30	1.00	0.81	0.92	0	9	24	--	--
09/30/01	6.5	1.1	6.7	7.1	1.6	0.30	0.70	0.81	0.95	0	5	49	--	--
10/31/01	7.9	1.1	6.8	7.2	1.7	0.40	0.20	1.49	2.36	0	5	28	--	6
11/30/01	8.2	1.2	6.9	7.3	1.1	0.30	0.30	1.23	1.51	--	--	--	--	--

Table 8. Water-quality data from the discharge monitoring reports of Major NPDES discharge facilities, 1989-2002 – Continued.

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	TP Bypass Flow (MG/mth)	No. of Bypass events
Permit Number IN0030651 – South Haven Sewer Works, Inc.														
02/28/02	10.7	1.8	6.9	7.8	1.7	0.20	0.10	1.51	1.54	--	--	--	2.0	--
03/31/02	8.4	2.0	7.0	7.3	1.1	0.60	0.20	1.55	2.46	--	--	--	2.0	--
04/30/02	8.3	2.0	7.0	7.3	1.3	0.40	0.10	1.57	2.01	0	12	216	--	--

Table 9. Water-quality data from the discharge monitoring reports of Minor NPDES discharge facilities, 1989-2002
[--, no data; <, less than; date is month/day/year; TP, treatment plant; Avg., Average; No., number; Min., minimum; Max., maximum]

Sampling Date	Min. DO (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Avg MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0058475 – Nature Works Conservancy District										
05/31/96	--	--	--	--	--	.00	.00	--	--	--
06/30/96	--	--	--	--	--	.00	.00	--	--	--
07/31/96	--	--	--	--	--	.00	.00	--	--	--
08/31/96	--	--	--	--	--	.00	.00	--	--	--
09/30/96	7.2	7.6	8.2	23.0	.05	.02	.03	--	61.00	310.00
10/31/96	7.1	7.7	7.8	9.0	.56	.05	.05	--	8.00	10.00
11/30/96	9.2	7.7	8.3	11.0	1.50	.03	.03	--	--	--
12/31/96	8.7	8.1	8.1	9.5	1.80	.02	.02	--	--	--
05/31/97	7.9	7.4	8.2	10.0	.07	.02	.04	--	1.00	1.00
06/30/97	7.0	7.7	8.0	11.5	.15	.02	.03	--	8.00	30.00
07/31/97	6.4	7.4	8.7	7.5	.39	.02	.02	--	41.00	123.00
08/31/97	8.3	7.1	9.0	8.0	.08	.02	.03	--	33.00	180.00
09/30/97	8.2	7.5	8.8	7.9	.05	.02	.03	--	11.00	30.00
10/31/97	6.7	7.4	8.8	6.3	.24	.02	.03	--	18.00	70.00
11/30/97	6.0	7.7	8.7	10.9	.22	.02	.03	--	--	--
12/31/97	6.8	7.5	8.4	5.1	.23	.03	.03	--	--	--
01/31/98	9.2	7.7	8.3	13.0	.70	.03	.03	--	--	--
02/28/98	6.6	7.1	7.9	4.2	.21	.03	.03	--	--	--
03/31/98	7.2	7.1	8.0	3.3	.69	.03	.03	--	--	--
04/30/98	7.4	7.0	8.1	6.9	.22	.03	.04	--	1.00	2.00
05/31/98	7.9	7.5	8.0	6.1	.10	.04	.04	--	1.60	4.00
06/30/98	8.5	7.5	7.9	9.7	.30	.04	.05	--	11.00	24.00
07/31/98	7.9	6.9	7.6	4.2	.38	.04	.05	--	8.80	20.00
08/31/98	7.2	7.2	7.9	5.8	.20	.04	.05	--	11.80	50.00
09/30/98	7.9	6.8	8.0	2.8	.15	.04	.04	--	16.00	30.00
10/31/98	7.6	6.5	7.2	5.0	.26	.04	.04	--	17.30	36.00
11/30/98	8.1	6.7	7.6	3.8	.25	.03	.36	--	--	--
12/31/98	7.5	6.4	8.4	6.3	.58	.04	.38	9.00	--	--
01/31/99	7.2	7.0	7.7	6.0	.49	.03	.04	--	--	--
02/28/99	6.9	7.2	8.0	5.7	.81	.03	.04	--	--	--
03/31/99	6.9	6.6	7.8	6.0	.67	.02	.03	9.00	--	--

Table 9. Water-quality data from the discharge monitoring reports of Minor NPDES discharge facilities, 1996-2002--
Continued

Sampling Date	Min. DO (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Avg MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0058475 – Nature Works Conservancy District										
04/30/99	7.6	6.6	7.7	5.0	.58	.03	.03	9.00	4.30	23.00
05/31/99	7.0	6.7	7.6	7.0	.41	.03	.03	9.00	3.00	10.00
06/30/99	7.0	6.8	7.3	7.0	.47	.04	.04	--	4.00	24.00
07/31/99	6.8	6.8	7.5	6.0	.46	.04	.05	--	28.00	59.00
08/31/99	6.8	7.0	7.5	5.0	.53	.04	.05	--	28.00	126.00
09/30/99	6.8	7.0	7.5	5.0	.49	.04	.05	9.00	3.00	12.00
10/31/99	6.6	7.0	7.5	5.0	.30	.04	.04	9.00	2.00	5.00
11/30/99	6.9	7.1	7.5	3.0	.37	.03	.03	9.00	--	--
12/31/99	6.9	7.2	7.7	4.0	.23	.05	.05	9.00	--	--
01/31/00	6.6	7.2	7.6	4.0	.25	.04	.04	9.00	--	--
02/29/00	6.5	7.2	7.5	5.0	.30	.04	.04	9.00	--	--
03/31/00	6.6	7.2	7.5	8.0	.60	.05	.05	--	--	--
04/30/00	6.6	6.8	7.8	7.1	1.00	.04	.04	--	28.80	100.00
05/31/00	6.6	6.8	7.8	7.1	1.00	.04	.04	9.00	28.80	100.00
06/30/00	6.9	7.0	7.7	6.5	1.10	.04	.05	--	17.80	32.00
07/31/00	--	--	--	--	--	.05	.05	--	--	--
08/31/00	6.2	7.3	8.0	13.0	1.20	.04	.06	--	62.00	220.00
09/30/00	6.1	7.1	7.7	5.5	.40	.03	.04	--	62.00	170.00
10/31/00	6.1	7.4	7.9	4.0	.36	.07	.09	--	20.00	40.00
11/30/00	6.5	6.5	8.2	9.3	1.44	.08	.08	9.00	--	--
12/31/00	6.4	7.1	7.4	11.0	.83	.10	.22	--	--	--
01/31/01	7.0	7.0	7.4	10.0	.50	.06	.07	--	--	--
02/28/01	7.8	7.1	7.6	6.4	.58	.06	.06	--	--	--
03/31/01	6.6	7.1	7.5	5.7	.50	.05	.05	--	--	--
04/30/01	7.3	7.0	7.6	6.9	.50	.05	.05	--	10.00	10.00
05/31/01	6.6	7.2	7.5	4.9	.50	.06	.07	--	14.00	50.00
06/30/01	6.5	7.2	7.8	5.4	.51	.00	.00	--	32.86	--
07/31/01	--	--	--	--	--	.00	.00	--	--	--
08/31/01	6.2	6.4	7.9	5.3	.50	.06	.06	--	--	--
09/30/01	--	--	--	--	--	.00	.00	--	--	--
10/31/01	--	--	--	--	--	.00	.00	--	--	--

Table 9. Water-quality data from the discharge monitoring reports of Minor NPDES discharge facilities, 1989-2002 – Continued

Sampling Date	Min. DO (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Total NH3 (as N) (mg/L)	Avg. Total Phos (as P) (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Avg MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0058475 – Nature Works Conservancy District										
11/30/01	6.8	7.4	8.0	6.1	.50	.05	.06	--	--	--
12/31/01	6.1	7.2	7.8	5.1	.50	.06	.07	--	--	--
01/31/02	6.2	7.4	7.7	7.5	.50	.06	.06	--	--	--
02/28/02	6.8	7.2	7.9	6.6	.50	.07	.07	--	--	--
03/31/02	10.0	7.1	7.7	5.7	.50	.07	.08	9.00	--	--
04/30/02	6.4	6.3	7.4	4.6	.50	.07	.07		--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989 – 2002
[--, no data; <, less than; date is month/day/year; TP, treatment plant; Avg., Average; No., number; Min., minimum; Max., maximum]

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0030767 – Liberty Elementary & Middle School													
01/31/89	--	28.25	7.4	7.8	12.8	0.02	0.05	--	--	--	--	--	--
02/28/89	--	5.50	7.4	7.7	6.3	0.02	0.09	--	--	--	--	--	--
03/31/89	--	6.70	7.4	7.4	6.5	0.01	0.01	--	--	--	--	--	--
04/30/89	--	6.25	7.4	7.4	14.0	0.02	0.03	0.50	0.70	327	1,300	--	--
05/31/89	--	8.40	7.4	8.0	12.5	0.02	0.04	0.60	0.70	300	600	--	--
06/30/89	--	13.00	7.4	8.0	14.3	0.01	0.01	0.60	0.60	6,235	150,000	--	--
07/31/89	--	2.00	6.0	7.4	15.5	0.01	0.03	0.50	0.60	1	1	--	--
08/31/89	--	15.00	7.4	7.4	22.0	0.01	0.02	0.60	0.70	1	1	--	--
09/30/89	--	2.25	7.0	8.0	5.0	0.02	0.04	0.60	0.90	3	8	--	--
10/31/89	--	2.00	7.4	7.4	3.5	0.02	0.03	0.60	0.70	1,027	3,400	--	--
11/30/89	--	2.50	7.4	7.4	4.5	0.01	0.03	--	--	--	--	--	--
12/31/89	--	6.66	7.4	7.8	4.6	0.04	0.05	--	--	--	--	--	--
01/31/90	--	3.75	7.4	7.4	15.8	0.03	0.04	--	--	--	--	--	--
02/28/90	--	0.32	7.4	8.0	3.0	0.02	0.04	--	--	--	--	--	--
03/31/90	--	5.00	7.8	7.4	2.6	0.02	0.04	--	--	--	--	--	--
04/30/90	--	2.00	7.4	7.4	2.5	0.02	0.03	0.60	0.70	14	54	--	--
05/31/90	--	2.20	7.4	7.6	3.6	0.02	0.04	0.60	0.70	2,800	8,100	--	--
06/30/90	--	2.75	7.4	8.0	6.5	0.01	0.02	0.50	0.70	3	8	--	--
07/31/90	--	2.00	7.4	7.6	3.0	0.01	0.01	0.60	0.60	1	1	--	--
08/31/90	--	2.00	7.4	7.4	10.0	0.02	0.02	0.50	0.60	1	1	--	--
09/30/90	--	2.25	7.4	7.8	3.0	0.02	0.03	0.50	0.90	1,762	6,000	--	--
10/31/90	--	1.75	0.8	0.7	4.8	0.02	0.03	7.40	7.80	--	--	--	--
11/30/90	--	0.43	6.0	7.0	3.0	0.02	0.03	--	--	--	--	--	--
12/31/90	--	2.00	7.4	7.6	3.0	0.02	0.03	--	--	--	--	--	--
01/31/91	--	2.25	7.4	7.8	3.0	0.04	0.08	--	--	--	--	--	--
02/28/91	--	3.25	7.5	7.8	5.0	0.03	0.04	--	--	--	--	--	--
03/31/91	--	2.30	7.6	7.8	4.3	0.03	0.04	--	--	--	--	--	--
04/30/91	--	2.50	7.6	8.0	3.0	0.02	0.02	0.60	0.70	240	900	--	--
05/31/91	--	6.00	7.6	7.8	7.0	0.03	0.06	0.70	0.90	204	700	--	--
06/30/91	--	11.50	7.4	7.6	20.3	0.02	0.02	0.60	0.80	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0030767 – Liberty Elementary & Middle School													
08/31/91	--	17.00	7.6	8.0	5.0	0.03	0.03	0.50	0.90	--	--	--	--
09/30/91	--	2.00	7.6	7.8	3.3	0.03	0.03	0.70	0.90	--	--	--	--
10/31/91	--	3.40	7.8	7.8	3.2	0.02	0.03	7.00	8.00	--	--	--	--
11/30/91	--	3.50	7.4	7.8	2.5	0.02	0.03	--	--	--	--	--	--
12/31/91	--	2.00	7.6	7.9	1.5	0.02	0.03	--	--	--	--	--	--
01/31/92	--	2.00	7.6	7.7	3.5	0.02	0.02	--	--	--	--	--	--
02/29/92	--	4.00	7.4	7.6	2.3	0.02	0.03	--	--	--	--	--	--
03/31/92	--	2.00	7.3	7.4	5.0	0.02	0.03	--	--	--	--	--	--
04/30/92	--	2.00	7.4	7.8	2.2	0.02	0.02	0.60	0.70	480	600	--	--
05/31/92	--	2.00	7.4	7.8	1.8	0.02	0.03	0.50	0.60	13	14	--	--
06/30/92	--	4.75	7.4	7.4	5.8	0.02	0.03	0.70	0.80	--	--	--	--
07/31/92	--	2.00	7.4	7.4	5.0	0.01	0.01	0.60	0.60	1	1	--	--
08/31/92	--	23.00	7.4	7.4	3.0	0.02	0.03	0.60	0.60	1	1	--	--
09/30/92	--	2.00	7.4	7.6	4.8	0.02	0.03	0.70	0.80	--	--	--	--
10/31/92	--	2.00	7.6	7.8	2.0	0.02	0.03	0.70	0.70	--	--	--	--
11/30/92	--	2.00	7.6	7.8	4.3	0.02	0.03	--	--	--	--	--	--
12/31/92	--	2.00	7.6	7.6	1.6	0.02	0.03	--	--	--	--	--	--
01/31/93	--	<2	7.6	7.6	2.0	0.02	0.03	--	--	--	--	--	--
02/28/93	--	2.00	7.6	7.8	<2.0	0.02	0.03	--	--	--	--	--	--
03/31/93	--	2.50	7.8	7.8	3.5	0.02	0.02	--	--	--	--	--	--
04/30/93	--	3.33	7.6	7.6	12.6	0.02	0.02	0.50	0.80	--	--	--	--
05/31/93	--	5.75	E	E	8.0	0.02	0.02	0.60	0.90	--	--	--	--
06/30/93	--	3.30	9	9	6.6	0.01	0.02	0.60	0.60	--	--	--	--
07/31/93	--	--	9	9	4.0	0.01	0.01	0.50	0.50	--	--	--	--
08/30/93	--	--	--	--	--	0	0	--	--	--	--	--	--
08/31/93	--	--	--	--	--	0	0	--	--	--	--	--	--
09/30/93	--	5.00	7.6	7.8	11.8	0.02	0.04	0.70	0.80	--	--	--	--
10/31/93	--	9.25	7.7	7.8	20.0	0.02	0.02	0.70	0.80	--	--	--	--
11/30/93	--	14.40	7.8	7.8	46.8	0.02	0.02	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0030767 – Liberty Elementary & Middle School													
01/31/94	--	19.00	7.8	8.0	23.0	0.02	0.02	--	--	--	--	--	--
02/28/94	--	7.00	7.8	7.8	8.0	0.02	0.02	--	--	--	--	--	--
03/31/94	--	14.30	7.6	7.8	19.7	0.02	0.03	--	--	--	--	--	--
04/30/94	--	20.00	7.6	7.6	32.0	0.02	0.03	0.60	0.80	--	--	--	--
05/31/94	--	15.25	7.6	7.6	21.3	0.02	0.02	0.60	0.80	1	1	--	--
06/30/94	--	7.00	7.6	7.8	10.0	0.01	0.03	0.40	0.70	--	--	--	--
07/31/94	--	9.00	7.8	7.8	7.0	0.01	0.01	0.60	0.60	--	--	--	--
08/31/94	--	8.00	7.6	7.6	5.0	0.02	0.02	0.80	0.80	--	--	--	--
09/30/94	--	5.70	7.6	7.8	2.3	0.02	0.03	0.80	0.90	--	--	--	--
10/31/94	--	--	7.8	7.8	1.8	0.02	0.03	0.80	0.90	5	5	--	--
11/30/94	--	--	7.8	7.8	B	0.02	0.03	--	--	--	--	--	--
12/31/94	--	--	7.6	7.6	5.0	0.02	0.03	--	--	--	--	--	--
01/31/95	--	1.40	7.8	7.8	2.6	0.02	0.03	--	--	--	--	--	--
02/28/95	--	8.50	7.8	7.8	12.5	0.02	0.02	--	--	--	--	--	--
03/31/95	--	--	7.6	7.8	2.6	0.02	0.03	0.60	0.60	--	--	--	--
04/30/95	--	--	7.6	7.6	2.8	0.02	0.02	0.60	0.60	339	800	--	--
05/31/95	--	3.00	7.6	7.6	3.0	0.02	0.02	--	--	--	--	--	--
07/31/95	--	--	--	--	--	0	0	0.70	0.70	--	--	--	--
08/31/95	--	5.00	7.8	7.8	3.0	0.02	0.02	0.70	0.70	8	8	--	--
09/30/95	--	3.60	7.6	7.8	7.0	0.02	0.03	0.70	0.80	35	100	--	--
10/31/95	--	1.25	7.6	7.8	1.3	0.02	0.03	--	--	29	106	--	--
11/30/95	--	3.00	7.6	7.8	2.8	0.02	0.03	--	--	--	--	--	--
12/31/95	--	3.50	7.6	7.6	2.5	0.02	0.02	--	--	--	--	--	--
01/31/96	--	2.50	7.6	7.6	2.6	0.01	0.02	--	--	--	--	--	--
02/29/96	--	1.00	7.6	7.6	6.3	0.01	0.02	--	--	--	--	--	--
03/31/96	--	6.75	7.6	7.8	28.0	0.01	0.02	--	--	--	--	--	--
04/30/96	--	7.00	7.6	7.8	27.0	0.02	0.02	0.60	0.60	--	--	--	--
05/31/96	--	8.25	7.6	7.8	23.0	0.02	0.02	0.70	0.70	--	--	--	--
06/30/96	--	3.00	7.6	7.6	6.0	0.01	0.03	0.70	0.70	--	--	--	--
07/31/96	--	--	--	--	--	0	0	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0030767 – Liberty Elementary & Middle School													
09/30/96	--	4.50	7.6	7.8	3.3	0.01	0.02	0.70	0.80	10	18	--	--
10/31/96	--	6.00	7.6	7.6	2.2	0.01	0.02	0.80	0.80	8	15	--	--
11/30/96	--	2.00	7.4	7.6	4.0	0.01	0.02	--	--	--	--	--	--
12/31/96	--	3.00	7.6	7.6	10.0	0.02	0.03	--	--	--	--	--	--
05/31/97	--	2.25	7.6	7.8	1.3	0.02	0.03	0.70	0.80	2	6	--	--
06/30/97	--	4.50	7.6	7.6	4.0	0.01	0.03	0.80	0.80	7	15	--	--
07/31/97	--	2.00	7.8	8.0	3.0	0.01	0.01	0.70	0.70	--	--	--	--
08/31/97	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
09/30/97	--	9.40	7.6	7.8	11.4	0.02	0.02	0.70	0.80	--	--	--	--
10/31/97	--	4.25	7.8	8.0	3.8	0.02	0.02	0.70	0.80	--	--	--	--
11/30/97	--	6.00	7.6	7.8	8.0	0.02	0.02	--	--	--	--	--	--
12/31/97	--	7.30	7.8	7.8	10.0	0.02	0.02	--	--	--	--	--	--
01/31/98	--	6.75	7.6	7.8	10.0	0.02	0.04	--	--	--	--	--	--
02/28/98	--	5.50	7.6	7.9	10.0	0.02	0.03	--	--	--	--	--	--
03/31/98	--	7.00	7.8	7.8	12.5	0.02	0.02	--	--	--	--	--	--
04/30/98	--	13.00	7.6	7.9	7.0	0.02	0.02	0.70	0.80	230	800	--	--
05/31/98	--	4.00	7.6	7.8	2.8	0.02	0.03	0.80	0.70	230	890	--	--
06/30/98	--	3.50	7.6	7.8	5.0	0.02	0.03	0.80	0.80	10	10	--	--
07/31/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
08/31/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
09/30/98	--	9.20	7.7	7.8	4.8	0.02	0.03	0.80	0.90	16	1	--	--
10/31/98	--	4.60	7.8	7.8	3.5	0.02	0.03	0.70	0.80	--	--	--	--
11/30/98	--	3.70	7.6	7.9	3.5	0.02	0.02	--	--	--	--	--	--
12/31/98	--	6.30	7.6	7.9	14.0	0.02	0.02	--	--	--	--	--	--
01/31/99	--	4.25	7.6	8.0	3.5	0.02	0.03	--	--	--	--	--	--
02/28/99	--	11.25	7.6	7.9	17.5	0.02	0.02	--	--	--	--	--	--
03/31/99	--	13.50	7.6	7.8	22.0	0.02	0.03	--	--	--	--	--	--
04/30/99	--	5.50	7.6	7.9	4.8	0.02	0.02	0.70	0.90	--	--	--	--
05/31/99	--	4.75	7.6	8.0	2.3	0.02	0.02	0.70	1.00	--	--	--	--
06/30/99	--	3.50	7.8	8.0	2.0	0.02	0.02	0.80	0.90	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0030767 – Liberty Elementary & Middle School													
08/31/99	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
09/30/99	--	10.60	7.6	7.9	2.2	0.01	0.01	0.70	0.90	--	--	--	--
10/31/99	--	4.50	7.5	7.6	1.3	0.01	0.01	0.70	0.80	--	--	--	--
11/30/99	--	3.00	7.5	7.6	2.8	0.01	0.01	--	--	--	--	--	--
12/31/99	--	3.50	7.5	7.8	6.0	0.01	0.02	--	--	--	--	--	--
01/31/00	--	3.20	7.4	7.8	3.8	0.01	0.02	--	--	--	--	--	--
02/29/00	--	2.40	7.4	7.6	0.2	0.01	0.02	--	--	--	--	--	--
03/31/00	--	2.00	7.5	7.7	1.3	0.01	0.03	--	--	--	--	--	--
04/30/00	--	3.00	7.5	7.8	2.3	0.01	0.04	0.50	0.80	--	--	--	--
05/31/00	--	2.60	6.5	7.8	2.0	0.01	0.02	0.80	0.90	--	--	--	--
06/30/00	--	--	6.8	7.4	4.5	0.01	0.02	0.80	0.90	--	--	--	--
07/31/00	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
08/31/00	--	3.00	7.2	7.8	7.5	0.01	0.02	0.70	0.80	--	--	--	--
09/30/00	--	2.50	7.6	8.0	6.0	0.01	0.02	--	--	--	--	--	--
10/31/00	--	2.00	7.0	7.6	3.0	0.01	0.02	--	--	--	--	--	--
11/30/00	--	0.24	7.5	7.8	4.8	0.01	0.02	--	--	--	--	--	--
12/31/00	--	1.00	7.6	7.6	5.0	0.02	0.03	--	--	--	--	--	--
01/31/01	--	1.20	7.4	7.8	1.4	0.02	0.03	--	--	--	--	--	--
02/28/01	--	0.52	7.6	8.0	0.5	0.02	0.02	--	--	--	--	--	--
03/31/01	--	1.00	7.8	8.2	3.3	0.01	0.02	--	--	--	--	--	--
04/30/01	--	1.50	8.0	8.9	3.0	0.01	0.02	0.01	0.01	--	--	--	--
05/31/01	--	1.60	8.2	8.8	2.4	0.01	0.02	--	--	--	--	--	--
06/30/01	--	1.60	8.6	9.0	4.6	0.01	0.01	--	--	--	--	--	--
07/31/01	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
08/31/01	--	6.00	8.9	9.0	4.0	0.01	0.01	--	--	--	--	--	--
09/30/01	--	5.60	7.4	7.6	5.5	0.01	0.16	--	--	--	--	--	--
10/31/01	--	2.60	7.5	7.9	1.6	0.01	0.02	--	--	--	--	--	--
11/30/01	--	1.50	7.7	8.0	0.8	0.01	0.02	--	--	--	--	--	--
12/31/01	6.7	--	7.3	8.0	1.5	0.00	0.00	--	--	--	--	--	--
01/31/02	7.4	2.80	7.9	8.9	3.1	0.01	0.02	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0030767 – Liberty Elementary & Middle School													
03/31/02	6.7	3.00	7.5	8.1	1.3	0.01	0.02	--	--	--	--	--	--
04/30/02	6.8	--	7.9	8.5	1.0	0.01	0.02	--	--	--	--	--	--
Permit Number IN0031119 – Shorewood Forest Utilities													
01/31/89	--	4.10	7.3	7.6	4.0	0.16	--	--	--	--	--	--	--
02/28/89	--	6.00	7.3	7.6	7.6	0.15	--	--	--	--	--	--	--
03/31/89	--	<4.0	7.2	7.6	6.0	0.16	--	--	--	--	--	--	--
04/30/89	--	<3.6	7.3	7.5	<4.1	0.15	--	0.30	0.65	38	80	--	--
05/31/89	--	<2.4	7.3	7.6	<2.9	0.16	0.30	0.35	1.20	36	100	--	--
06/30/89	--	<3.3	7.3	7.9	<5.5	0.16	--	0.30	2.20	<29.	100	--	--
07/31/89	--	<3.4	7.3	7.6	11.0	0.15	--	0.10	1.40	--	--	--	--
08/31/89	--	<2.0	7.5	7.8	<2.8	0.15	--	<0.02	1.90	>1506.	>6000.	--	--
10/31/89	--	<3.6	--	--	<4.0	0.14	--	0.30	1.70	68	300	--	--
11/30/89	--	<2.1	7.3	7.6	<4.8	0.14	--	--	--	--	--	--	--
12/31/89	--	<4.5	6.9	7.8	8.4	0.16	--	--	--	--	--	--	--
01/31/90	--	2.50	7.6	7.7	<5.0	0.16	--	--	--	--	--	--	--
02/28/90	--	<2.7	7.6	7.7	5.9	0.18	--	--	--	--	--	--	--
03/31/90	--	<2.6	7.6	7.7	4.1	0.16	--	--	--	--	--	--	--
04/30/90	--	<3.1	7.5	7.7	<2.6	0.15	--	0.50	1.10	<2.	6	--	--
05/31/90	--	<2.6	7.5	7.7	10.0	0.17	--	0.60	1.00	5	23	--	--
06/30/90	--	<3.6	7.5	7.7	5.5	0.14	--	0.60	0.95	--	17	--	--
07/31/90	--	<2.6	7.5	7.8	6.8	0.15	0.00	0.83	1.00	42	85	--	--
08/31/90	--	<2.	7.6	7.8	<5.4	0.15	--	0.50	1.20	43	100	--	--
09/30/90	--	<2.	7.6	7.9	7.4	0.17	--	0.23	1.00	56	200	--	--
10/31/90	--	<3.2	7.5	7.8	7.3	0.20	--	0.50	1.20	18	100	--	--
11/30/90	--	<2.3	7.6	7.8	<5.5	0.21	0.25	--	--	--	--	--	--
12/31/90	--	<2.9	7.6	7.8	<4.8	0.19	0.21	--	--	--	--	--	--
01/31/91	--	<2.5	7.6	7.7	4.9	0.16	0.18	--	--	--	--	--	--
02/28/91	--	2.20	7.7	7.6	4.3	0.15	0.18	--	--	--	--	--	--
03/31/91	--	3.20	7.6	8.0	8.2	0.15	0.20	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0031119 – Shorewood Forest Utilities													
06/30/91	--	2.30	7.5	7.9	4.6	0.15	0.15	0.70	0.90	5	112	--	--
07/31/91	7.8	--	7.6	8.1	5.3	0.15	0.16	0.50	1.00	9	35	--	--
08/31/91	6.0	--	7.6	7.9	4.4	0.18	0.19	--	--	1	1	--	--
09/30/91	6.0	--	7.0	8.0	2.0	0.26	0.22	--	--	14	153	--	--
10/31/91	6.1	--	7.6	8.0	3.0	0.26	0.42	--	--	--	--	5	53
11/30/91	6.7	--	7.5	7.9	3.3	0.27	0.32	--	--	--	--	--	--
12/31/91	5.9	--	7.4	7.8	3.2	0.35	0.30	--	--	--	--	--	--
01/31/92	6.4	--	7.3	7.8	9.0	0.26	0.26	--	--	--	--	--	--
02/29/92	7.0	--	7.5	7.8	14.4	0.26	0.27	--	--	--	--	--	--
03/31/92	6.1	--	7.0	7.9	7.7	0.26	0.29	--	--	--	--	--	--
04/30/92	6.5	--	7.6	7.9	7.4	0.24	0.27	--	--	--	--	26	290
05/31/92	6.5	--	7.5	8.0	4.7	0.26	0.26	--	--	--	--	22	65
06/30/92	8.2	--	7.0	7.9	5.2	0.16	0.18	--	--	--	--	4	62
07/31/92	8.0	--	6.9	7.9	3.2	0.17	0.17	--	--	--	--	6	78
08/31/92	7.1	--	7.4	8.1	3.6	0.18	0.20	--	--	--	--	4	110
09/30/92	8.7	--	7.5	8.0	2.0	0.20	0.27	--	--	--	--	5	58
10/31/92	7.2	--	7.5	7.9	2.9	0.15	0.16	--	--	--	--	4	19
11/30/92	6.0	--	7.4	7.9	2.6	0.17	0.20	--	--	--	--	--	--
12/31/92	10.8	--	7.5	8.1	2.0	0.17	0.21	--	--	--	--	--	--
01/31/93	10.5	--	7.3	7.6	2.0	0.19	0.21	--	--	--	--	--	--
02/28/93	10.5	--	7.4	7.9	2.6	0.16	0.19	--	--	--	--	--	--
03/31/93	10.1	--	7.5	7.6	3.2	0.22	0.26	--	--	--	--	--	--
04/30/93	10.1	--	7.4	7.7	3.1	0.23	0.26	--	--	--	--	13	78
05/31/93	9.3	--	7.3	7.6	3.8	0.22	0.24	--	--	--	--	23	T
06/30/93	8.8	--	7.5	7.6	5.5	0.28	0.29	--	--	--	--	38	T
07/31/93	8.5	--	7.4	7.7	6.0	0.36	0.34	--	--	--	--	28	T
08/31/93	8.8	--	7.3	7.5	2.0	0.25	0.31	--	--	--	--	16	30
09/30/93	8.7	--	7.1	7.6	2.0	0.25	0.32	--	--	--	--	42	92
10/31/93	9.9	--	7.4	7.6	2.0	0.21	0.28	--	--	--	--	10	29
11/30/93	12.8	--	7.4	7.6	2.7	0.24	0.24	--	--	--	--	--	--
12/31/93	15.3	--	7.4	7.7	3.8	0.23	0.25	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0031119 – Shorewood Forest Utilities													
01/31/94	12.8	--	7.4	7.7	2.9	0.24	0.28	--	--	--	--	--	--
02/28/94	11.6	--	7.4	7.7	5.3	0.23	0.33	--	--	--	--	--	--
03/31/94	14.6	--	7.4	7.7	4.5	0.23	0.30	--	--	--	--	--	--
04/30/94	12.5	--	7.4	7.7	4.0	0.21	0.28	--	--	--	--	154	T
05/31/94	11.1	--	7.4	7.6	5.0	0.24	0.27	--	--	--	--	6	167
06/30/94	7.9	--	7.4	7.7	2.0	0.17	0.22	--	--	--	--	41	51
07/31/94	10.9	--	7.3	7.6	4.0	0.23	0.25	--	--	--	--	51	140
08/31/94	8.8	--	7.3	7.6	6.0	0.22	0.23	--	--	--	--	18	244
09/30/94	10.7	--	7.4	7.6	6.0	0.30	0.32	--	--	--	--	4	10
10/31/94	14.6	--	7.4	7.6	4.0	0.26	0.27	--	--	--	--	10	20
11/30/94	10.0	--	7.3	7.5	7.0	0.24	0.25	--	--	--	--	--	--
12/31/94	10.5	--	7.3	7.6	5.0	0.23	0.23	--	--	--	--	--	--
01/31/95	10.3	--	7.4	7.9	5.0	0.22	0.23	--	--	--	--	--	--
02/28/95	9.6	--	7.3	7.6	4.7	0.21	0.22	--	--	--	--	--	--
03/31/95	9.5	--	7.5	7.9	4.0	0.20	0.21	--	--	--	--	--	--
04/30/95	D	--	D	D	0.00	0.00	--	--	--	--	--	--	--
05/31/95	7.9	--	7.2	7.6	6.7	0.23	0.26	--	--	--	--	--	750
06/30/95	7.3	--	7.2	7.5	6.0	0.25	0.26	--	--	--	--	2	2
07/31/95	6.0	--	7.3	7.6	7.0	0.23	0.25	--	--	--	--	1	23
08/31/95	9.5	--	7.3	7.5	6.0	0.23	0.24	--	--	--	--	1	55
09/30/95	10.5	--	7.2	7.6	7.5	0.20	0.21	--	--	--	--	2	2
10/31/95	11.4	--	7.3	7.6	7.9	0.19	0.20	--	--	--	--	1	1
11/30/95	9.6	--	7.4	7.7	5.0	0.26	0.30	--	--	--	--	--	--
12/31/95	10.3	--	7.3	7.5	6.0	0.24	0.24	--	--	--	--	--	--
01/31/96	10.4	--	7.4	7.6	7.1	0.23	0.25	--	--	--	--	--	--
02/29/96	10.0	--	7.0	7.5	6.9	0.22	0.24	--	--	--	--	--	--
03/31/96	10.5	--	7.0	7.3	8.2	0.21	0.22	--	--	--	--	--	--
04/30/96	10.4	--	7.1	7.3	5.8	0.23	0.26	--	--	--	--	2	2
05/31/96	10.1	--	7.0	7.4	6.6	0.27	0.33	--	--	--	--	1	1
06/30/96	10.6	--	7.0	7.3	6.0	0.30	0.35	--	--	--	--	13	480

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0031119 – Shorewood Forest Utilities													
08/31/96	9.2	--	7.1	7.4	6.0	0.25	0.27	--	--	--	--	1	2
09/30/96	6.7	--	7.0	7.4	8.0	0.24	0.24	--	--	--	--	1	1
10/31/96	9.0	--	7.3	7.6	7.0	0.23	0.24	--	--	--	--	2	63
11/30/96	11.3	--	7.1	7.4	7.7	0.25	0.27	--	--	--	--	--	--
12/31/96	9.5	--	7.0	7.4	5.0	0.26	0.27	--	--	--	--	--	--
05/31/97	10.6	7.00	7.0	7.3	7.0	0.26	0.27	--	--	--	--	2	2
06/30/97	9.8	7.60	7.0	7.3	6.5	0.28	0.29	--	--	--	--	1	1
07/31/97	7.8	6.00	7.0	7.2	6.0	0.25	0.26	--	--	--	--	1	1
08/31/97	8.9	5.00	7.0	7.3	7.0	0.26	0.29	--	--	--	--	1	1
09/30/97	6.8	7.00	7.0	7.5	7.0	0.24	0.25	--	--	--	--	1	1
10/31/97	9.4	6.00	7.2	7.7	6.0	0.23	0.23	--	--	--	--	2	3
11/30/97	8.0	7.00	7.1	7.4	6.0	0.23	0.26	--	--	--	--	--	--
12/31/97	8.5	5.00	7.1	7.6	6.0	0.24	0.27	--	--	--	--	--	--
01/31/98	7.8	5.00	7.2	7.6	4.0	0.26	0.39	--	--	--	--	--	--
02/28/98	9.0	6.00	7.2	7.4	8.0	0.26	0.29	--	--	--	--	--	--
03/31/98	9.1	5.00	7.1	7.5	8.0	0.29	0.35	--	--	--	--	--	--
04/30/98	8.0	5.00	7.1	7.5	5.0	0.23	0.26	--	--	--	--	108	632
05/31/98	7.5	4.00	7.1	7.5	5.0	0.26	0.29	--	--	--	--	4	100
06/30/98	7.5	3.00	7.2	7.5	7.0	0.26	0.29	--	--	--	--	2	10
07/31/98	7.4	3.00	7.2	7.4	6.0	0.24	0.29	--	--	--	--	3	10
08/31/98	7.4	7.00	7.1	7.4	3.0	0.24	0.27	--	--	--	--	2	10
09/30/98	7.6	6.00	7.1	7.4	4.0	0.23	0.25	--	--	--	--	4	10
10/31/98	7.6	6.00	7.0	7.4	3.0	0.21	0.30	--	--	--	--	2	2
11/30/98	8.5	6.00	7.1	7.4	3.0	0.19	0.22	--	--	--	--	--	--
12/31/98	8.5	6.00	7.1	7.3	4.0	0.17	0.20	--	--	--	--	--	--
01/31/99	8.5	6.00	7.1	7.4	4.0	0.19	0.23	--	--	--	--	--	--
02/28/99	9.5	6.00	7.2	7.4	4.0	0.14	0.17	--	--	--	--	--	--
03/31/99	9.6	5.00	7.1	7.5	5.0	0.16	0.16	--	--	--	--	--	--
04/30/99	7.3	7.00	7.3	7.6	6.0	0.18	0.23	--	--	--	--	9	210
05/31/99	7.6	6.00	7.5	7.9	5.0	0.15	0.16	--	--	--	--	3	70

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0031119 – Shorewood Forest Utilities													
07/31/99	7.3	4.00	6.9	7.3	10.0	0.17	0.17	--	--	--	--	42	1,300
08/31/99	7.3	4.00	7.2	7.5	12.0	0.16	0.17	--	--	--	--	10	7,000
09/30/99	7.7	4.00	7.2	7.4	8.0	0.16	0.17	--	--	--	--	2	2
10/31/99	9.6	5.00	7.2	7.4	6.0	0.15	0.16	--	--	--	--	2	10
11/30/99	7.4	4.00	7.0	7.4	6.0	0.15	0.17	--	--	--	--	--	--
12/31/99	9.8	6.00	7.0	7.3	6.0	0.17	0.20	--	--	--	--	--	--
01/31/00	8.6	5.00	7.0	7.3	5.0	0.18	0.19	--	--	--	--	--	--
02/29/00	9.5	7.00	7.2	7.5	6.0	0.19	0.23	--	--	--	--	--	--
03/31/00	8.5	6.00	7.3	7.5	7.0	0.17	0.18	--	--	--	--	--	--
04/30/00	9.0	5.00	7.1	7.4	7.0	0.19	0.21	--	--	--	--	31	110
05/31/00	9.0	6.00	7.2	7.4	7.0	0.20	0.23	--	--	--	--	2	2
06/30/00	9.0	7.00	7.2	7.4	6.8	0.23	0.25	--	--	--	--	12	26
07/31/00	7.8	7.00	7.1	7.5	7.0	0.20	0.22	--	--	--	--	28	78
08/31/00	7.9	6.00	7.2	7.5	5.5	0.20	0.21	--	--	--	--	40	82
09/30/00	7.0	6.00	7.2	7.5	8.0	0.19	0.23	--	--	--	--	43	105
10/31/00	6.4	7.00	7.2	7.5	5.0	0.19	0.18	--	--	--	--	38	70
11/30/00	11.4	6.00	7.3	7.5	4.2	0.19	0.27	--	--	--	--	--	--
12/31/00	10.0	7.00	7.3	7.5	4.2	0.19	0.21	--	--	--	--	--	--
01/31/01	9.0	7.00	7.3	7.5	7.3	0.20	0.24	--	--	--	--	--	--
02/28/01	9.0	7.00	7.2	7.5	5.3	0.22	0.29	--	--	--	--	--	--
03/31/01	9.0	7.00	7.2	7.5	4.5	0.18	0.18	--	--	--	--	--	--
04/30/01	8.7	7.00	7.2	7.5	6.1	0.18	0.25	--	--	--	--	11	15
05/31/01	8.0	3.00	7.2	7.5	5.3	0.21	0.28	--	--	--	--	6	9
06/30/01	7.9	3.00	7.2	7.5	8.4	0.20	0.25	--	--	--	--	9	10
07/31/01	9.3	3.00	7.2	7.4	6.7	0.20	2.10	--	--	--	--	9	10
08/31/01	8.3	4.00	7.2	7.5	4.7	0.20	0.24	--	--	--	--	9	10
09/30/01	8.4	3.00	7.2	7.4	4.5	0.19	0.23	--	--	--	--	10	10
10/31/01	7.9	3.00	7.1	7.5	4.6	0.23	0.34	--	--	--	--	8	10
11/30/01	8.4	4.00	7.2	7.4	5.2	0.27	0.30	--	--	--	--	--	--
12/31/01	8.4	4.00	7.2	7.4	4.7	0.27	0.29	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0031119 – Shorewood Forest Utilities													
02/28/02	11.5	3.70	7.2	7.4	5.3	0.24	0.29	--	--	--	--	--	--
03/31/02	9.8	2.80	7.0	7.5	5.2	0.27	0.30	--	--	--	--	--	--
04/30/02	9.6	3.00	7.3	7.4	5.0	0.28	0.30	--	--	--	--	10	10
Permit Number IN0035581 – Sands Mobile Home Park													
01/31/89	--	4.25	7.2	7.4	3.3	0.02	0.02	--	--	--	--	--	--
02/28/89	--	5.25	7.2	7.4	4.8	0.02	0.02	--	--	--	--	--	--
03/31/89	--	3.25	7.2	7.4	8.5	0.02	0.02	--	--	--	--	--	--
04/30/89	--	5.50	7.2	7.4	6.5	0.02	0.02	0.60	0.80	--	--	--	--
05/31/89	--	4.50	7.2	7.4	3.8	0.02	0.02	0.60	0.80	--	--	--	--
06/30/89	--	3.56	7.2	7.4	5.5	0.02	0.02	0.60	1.00	--	--	--	--
07/31/89	--	3.70	7.2	7.4	5.8	0.02	0.02	0.60	1.00	--	--	--	--
08/31/89	--	6.88	7.2	7.4	4.3	0.02	0.02	0.60	0.80	--	--	--	--
09/30/89	--	3.30	7.2	7.4	2.0	0.02	0.02	0.60	0.80	--	--	--	--
10/31/89	--	1.50	7.2	7.4	5.0	0.02	0.02	0.60	0.80	--	--	--	--
11/30/89	--	1.25	7.2	7.4	6.8	0.02	0.02	--	--	--	--	--	--
12/31/89	--	4.00	7.2	7.4	2.5	0.02	0.02	--	--	--	--	--	--
01/31/90	--	5.25	7.2	7.4	1.5	0.02	0.02	--	--	--	--	--	--
02/28/90	--	4.00	7.2	7.4	1.3	0.02	0.02	--	--	--	--	--	--
03/31/90	--	1.50	7.2	7.4	1.5	0.02	0.02	--	--	--	--	--	--
04/30/90	--	4.00	7.2	7.4	5.0	0.02	0.02	0.60	0.80	--	--	--	--
05/31/90	--	1.87	7.2	7.4	2.1	0.02	0.02	0.60	0.80	--	--	--	--
06/30/90	--	1.93	7.2	7.4	1.2	0.02	0.02	0.60	0.80	--	--	--	--
07/31/90	--	1.75	7.2	7.4	1.5	0.01	0.01	0.60	1.00	--	--	--	--
08/31/90	--	1.40	7.2	7.4	1.2	0.01	0.01	0.60	0.80	--	--	--	--
09/30/90	--	1.00	7.2	7.4	1.5	0.01	0.02	0.10	0.38	--	--	--	--
10/31/90	--	2.00	7.2	7.4	2.0	0.02	0.03	0.60	1.00	--	--	--	--
11/30/90	--	1.40	7.2	7.4	3.4	0.02	0.02	--	--	--	--	--	--
12/31/90	--	1.00	7.2	7.4	2.3	0.01	0.02	--	--	--	--	--	--
01/31/91	--	2.20	7.2	7.4	3.4	0.01	0.02	--	--	--	--	--	--
02/28/91	--	1.00	7.2	7.4	4.3	0.01	0.02	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0035581 – Sands Mobile Home Park													
04/30/91	--	2.00	7.2	7.4	2.5	0.02	0.02	0.60	0.80	--	--	--	--
05/31/91	--	13.00	7.2	7.4	13.4	0.02	0.02	0.60	1.00	--	--	--	--
06/30/91	--	4.67	7.2	7.4	6.0	0.01	0.01	0.60	1.00	--	--	--	--
07/31/91	--	1.25	7.2	7.6	3.0	0.01	0.01	0.80	1.00	--	--	--	--
08/31/91	--	3.80	7.2	7.6	8.0	0.01	0.01	0.60	1.00	--	--	--	--
09/30/91	--	2.50	7.2	7.8	5.3	0.01	0.01	0.60	1.00	--	--	--	--
10/31/91	--	1.00	7.2	7.6	4.8	0.01	0.02	0.60	1.00	--	--	--	--
11/30/91	--	1.50	7.2	7.6	4.5	0.01	0.02	--	--	--	--	--	--
12/31/91	--	1.25	7.2	7.6	3.0	0.01	0.02	--	--	--	--	--	--
01/31/92	--	1.60	7.2	7.6	6.0	0.01	0.02	--	--	--	--	--	--
02/29/92	--	5.00	7.2	7.6	9.0	0.01	0.02	--	--	--	--	--	--
03/31/92	--	3.25	7.2	7.6	8.8	0.02	0.02	--	--	--	--	--	--
04/30/92	--	2.60	7.2	7.4	6.2	0.02	0.02	0.60	1.00	--	--	--	--
05/31/92	--	1.75	7.2	7.6	5.3	0.01	0.02	0.60	1.00	--	--	--	--
06/30/92	--	3.00	7.2	7.6	7.3	0.01	0.02	0.60	1.00	--	--	--	--
07/31/92	--	3.80	7.2	7.6	10.4	0.01	0.02	0.60	1.00	--	--	--	--
08/31/92	--	3.00	7.2	7.6	11.3	0.01	0.02	0.80	1.00	--	--	--	--
09/30/92	--	5.25	7.2	7.8	22.8	0.01	0.02	0.80	1.00	--	--	--	--
10/31/92	--	3.80	7.6	7.8	15.2	0.01	0.02	0.60	1.00	--	--	--	--
11/30/92	--	1.75	7.4	7.6	7.8	0.01	0.02	--	--	--	--	--	--
12/31/92	--	1.60	7.2	7.6	7.2	0.01	0.02	--	--	--	--	--	--
01/31/93	--	3.00	7.2	7.6	9.3	0.02	0.02	--	--	--	--	--	--
02/28/93	--	3.50	7.2	7.6	12.0	0.01	0.01	--	--	--	--	--	--
03/31/93	--	1.75	7.2	7.6	5.5	0.01	0.01	--	--	--	--	--	--
04/30/93	--	2.20	7.2	7.6	4.4	0.01	0.02	0.60	1.00	--	--	--	--
05/31/93	--	1.75	7.2	7.6	6.0	0.01	0.02	0.60	1.00	--	--	--	--
06/30/93	--	1.75	7.2	7.8	3.3	0.16	0.25	0.60	1.00	--	--	--	--
07/31/93	--	2.80	7.2	7.6	6.2	0.01	0.02	0.60	1.00	--	--	--	--
08/31/93	--	3.75	7.2	7.8	5.3	0.01	0.02	0.60	1.00	--	--	--	--
09/30/93	--	4.00	7.2	7.6	6.4	0.02	0.02	0.60	1.00	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0035581 – Sands Mobile Home Park													
11/30/93	--	1.00	7.2	7.6	3.3	0.02	0.02	--	--	--	--	--	--
12/31/93	--	1.00	7.2	7.0	3.0	0.02	0.02	--	--	--	--	--	--
01/31/94	--	1.75	7.2	7.6	4.5	0.01	0.02	--	--	--	--	--	--
02/28/94	--	1.75	7.2	7.6	5.0	0.01	0.02	--	--	--	--	--	--
03/31/94	--	1.80	7.2	7.4	6.0	0.02	0.02	--	--	--	--	--	--
04/30/94	--	2.25	7.2	7.4	3.3	0.01	0.02	0.60	1.00	--	--	--	--
05/31/94	--	3.50	7.2	7.6	2.5	0.01	0.02	0.80	1.00	--	--	--	--
07/31/94	--	4.25	7.4	7.6	8.5	0.01	0.02	0.60	1.00	--	--	--	--
08/31/94	--	5.25	7.4	7.8	8.3	0.01	0.02	0.60	1.00	--	--	--	--
09/30/94	--	1.60	7.4	7.6	6.4	0.01	0.01	0.60	1.00	--	--	--	--
10/31/94	--	2.25	7.2	7.6	11.3	0.01	0.02	0.80	1.00	--	--	--	--
11/30/94	--	1.50	7.2	7.4	16.0	0.01	0.02	--	--	--	--	--	--
12/31/94	--	2.20	7.2	7.4	9.2	0.01	0.01	--	--	--	--	--	--
01/31/95	--	1.75	7.2	7.4	3.5	0.01	0.02	--	--	--	--	--	--
02/28/95	--	1.75	7.0	7.4	3.3	0.01	0.02	--	--	--	--	--	--
03/31/95	--	2.60	7.2	7.4	4.6	0.01	0.02	--	--	--	--	--	--
04/30/95	--	--	7.0	7.4	5.8	0.02	0.02	0.60	0.80	--	--	--	--
05/31/95	--	--	7.2	7.4	5.0	0.02	0.02	0.60	1.00	--	--	--	--
06/30/95	--	--	7.0	7.4	7.8	0.01	0.02	0.60	1.00	--	--	--	--
07/31/95	--	--	7.0	7.4	13.8	0.01	0.02	0.60	1.00	--	--	--	--
08/31/95	--	--	7.0	7.4	11.0	0.11	0.15	0.60	1.00	--	--	--	--
09/30/95	--	--	7.0	7.4	5.8	0.01	0.01	0.80	1.00	--	--	--	--
10/31/95	--	--	7.2	7.4	4.3	0.01	0.01	0.60	0.80	--	--	--	--
11/30/95	--	--	7.2	7.4	2.8	0.01	0.02	--	--	--	--	--	--
12/31/95	--	--	7.0	7.4	1.8	0.01	0.01	--	--	--	--	--	--
01/31/96	--	--	7.0	7.4	3.3	0.01	0.01	--	--	--	--	--	--
02/29/96	--	--	7.0	7.4	2.6	0.01	0.01	--	--	--	--	--	--
03/31/96	--	--	7.0	7.2	2.8	0.11	0.01	--	--	--	--	--	--
04/30/96	--	--	7.0	7.4	7.5	0.01	0.01	0.60	0.80	--	--	--	--
05/31/96	--	--	7.0	7.2	7.0	0.01	0.16	0.60	0.80	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0035581 – Sands Mobile Home Park													
07/31/96	--	--	7.0	7.4	6.0	0.01	0.03	0.60	1.00	--	--	--	--
08/31/96	--	--	7.0	7.2	14.8	0.01	0.02	0.80	1.00	--	--	--	--
09/30/96	--	--	7.0	7.2	13.5	0.01	0.01	0.60	1.00	--	--	--	--
10/31/96	--	--	7.2	7.0	10.0	0.01	0.01	0.80	1.00	--	--	--	--
11/30/96	--	--	7.0	7.2	8.8	0.01	0.01	--	--	--	--	--	--
12/31/96	--	--	7.0	7.2	5.8	0.01	0.01	--	--	--	--	--	--
05/31/97	--	2.20	7.0	7.2	4.2	0.01	0.01	0.60	1.00	--	--	--	--
06/30/97	--	5.50	7.0	7.2	4.0	0.01	0.02	0.60	1.00	--	--	--	--
07/31/97	--	4.00	7.0	7.2	3.0	0.01	0.01	0.60	1.00	--	--	--	--
08/31/97	--	3.75	7.0	7.2	3.5	0.01	0.02	0.85	1.00	--	--	--	--
09/30/97	--	4.25	7.0	7.2	2.8	0.01	0.01	0.90	1.00	--	--	--	--
10/31/97	--	2.80	7.0	7.2	2.0	0.01	0.01	0.60	1.00	--	--	--	--
11/30/97	--	1.50	7.0	7.2	2.0	0.01	0.01	--	--	--	--	--	--
12/31/97	--	1.75	7.0	7.2	1.0	0.01	0.01	--	--	--	--	--	--
01/31/98	--	1.50	7.0	7.2	2.3	0.01	0.01	--	--	--	--	--	--
02/28/98	--	2.25	7.0	7.2	1.3	0.01	0.01	--	--	--	--	--	--
03/31/98	--	2.00	7.0	7.2	1.8	0.01	0.02	--	--	--	--	--	--
04/30/98	--	1.40	7.0	7.2	1.2	0.01	0.01	0.60	0.80	--	--	--	--
05/31/98	--	3.50	7.0	7.2	1.5	0.01	0.02	0.60	1.00	--	--	--	--
06/30/98	--	3.00	7.0	7.2	2.0	0.01	0.02	0.60	1.00	--	--	--	--
07/31/98	--	1.80	7.0	7.2	2.8	0.01	0.02	0.80	0.80	--	--	--	--
08/31/98	--	1.25	7.0	7.2	2.3	0.01	0.01	0.80	1.00	--	--	--	--
09/30/98	--	1.50	7.0	7.2	1.8	0.01	0.02	0.80	1.00	--	--	--	--
10/31/98	--	2.20	7.0	7.2	2.6	0.01	0.02	0.87	1.00	--	--	--	--
11/30/98	--	4.00	7.0	7.2	4.0	0.01	0.02	--	--	--	--	--	--
12/31/98	--	1.40	7.0	7.2	3.0	0.01	0.02	--	--	--	--	--	--
01/31/99	--	1.75	7.0	7.2	4.3	0.01	0.02	--	--	--	--	--	--
02/28/99	--	1.50	7.0	7.2	2.0	0.01	0.01	--	--	--	--	--	--
03/31/99	--	1.50	7.0	7.2	1.5	0.01	0.01	--	--	--	--	--	--
04/30/99	--	2.20	7.0	7.2	1.4	0.01	0.02	0.60	0.60	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0035581 – Sands Mobile Home Park													
06/30/99	--	1.75	6.9	7.0	1.0	0.01	0.02	1.00	1.00	--	--	--	--
07/31/99	--	2.00	6.9	7.2	1.6	0.01	0.02	0.80	1.00	--	--	--	--
08/31/99	--	1.50	7.0	7.2	1.5	0.01	0.01	0.60	1.00	--	--	--	--
09/30/99	--	1.40	7.0	7.2	2.0	0.01	0.02	0.80	1.00	--	--	--	--
10/31/99	--	2.25	7.0	7.2	2.8	0.01	0.02	0.60	1.00	--	--	--	--
11/30/99	--	2.50	7.0	7.2	3.5	0.01	0.02	--	--	--	--	--	--
12/31/99	--	2.60	7.0	7.0	2.8	0.02	0.03	--	--	--	--	--	--
01/31/00	--	4.00	7.0	7.2	2.8	0.02	0.02	--	--	--	--	--	--
02/29/00	--	6.25	7.0	7.0	6.0	0.02	0.02	--	--	--	--	--	--
03/31/00	--	3.00	7.0	7.0	2.4	0.02	0.02	--	--	--	--	--	--
04/30/00	--	3.50	7.0	7.4	1.5	0.02	0.03	0.60	1.00	--	--	--	--
05/31/00	--	2.50	7.2	7.4	2.0	0.02	0.02	0.60	1.00	--	--	--	--
06/30/00	--	2.00	7.0	7.4	1.6	0.02	0.03	0.60	1.00	--	--	--	--
07/31/00	--	1.00	7.2	7.4	1.5	0.01	0.03	0.60	1.00	--	--	--	--
08/31/00	--	1.60	7.2	7.4	1.8	0.01	0.02	0.60	0.80	--	--	--	--
09/30/00	--	3.75	7.2	7.6	4.8	0.02	0.03	0.60	1.00	--	--	--	--
10/31/00	--	2.25	7.4	7.6	3.3	0.02	0.03	0.60	1.00	--	--	--	--
11/30/00	--	2.20	7.2	7.6	4.2	0.02	0.03	--	--	--	--	--	--
12/31/00	--	4.25	7.2	7.4	6.8	0.01	0.01	--	--	--	--	--	--
01/31/01	--	3.50	7.2	7.4	2.3	0.01	0.01	--	--	--	--	--	--
02/28/01	--	2.50	7.2	7.4	1.3	0.01	0.03	--	--	--	--	--	--
03/31/01	--	1.80	7.2	7.4	1.4	0.01	0.01	--	--	--	--	--	--
04/30/01	--	2.40	7.1	7.3	4.0	0.01	0.01	0.52	0.92	--	--	--	--
05/31/01	--	1.60	7.2	7.3	4.0	0.01	0.01	0.56	0.84	--	--	--	--
06/30/01	--	1.50	7.3	7.7	4.8	0.01	0.01	0.63	0.95	--	--	--	--
07/31/01	--	3.80	7.5	7.8	4.1	0.01	0.01	0.69	0.96	--	--	--	--
08/31/01	--	1.10	7.0	7.7	4.0	0.01	0.01	0.63	0.99	--	--	--	--
09/30/01	--	1.50	7.2	7.4	4.0	0.01	0.01	0.68	0.97	--	--	--	--
10/31/01	--	1.60	7.3	7.7	4.0	0.01	0.02	0.50	0.81	--	--	--	--
11/30/01	--	4.90	7.0	7.8	5.1	0.02	0.03	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0035581 – Sands Mobile Home Park													
01/31/02	--	1.00	7.5	7.5	4.0	0.01	0.01	--	--	--	--	--	--
02/28/02	--	1.20	7.3	7.6	4.0	0.01	0.01	--	--	--	--	--	--
03/31/02	--	1.00	7.4		4.0	0.01	0.01	--	--	--	--	--	--
04/30/02	--	1.40	7.2	7.6	4.0	0.01	0.01	0.76	0.91	--	--	--	--
Permit Number IN0038709 – Liberty Farm Mobile Home Park													
01/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
02/28/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
03/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
04/30/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
05/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
06/30/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
07/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
08/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
09/30/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
10/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
11/30/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
12/31/89	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
01/31/90	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
02/28/90	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
03/31/90	--	--	8	8	8	8.00	8.00	--	--	--	--	--	--
04/30/90	3.2	--	7.1	7.6	5.7	0.03	0.03	0.00	0.00	--	--	--	--
05/31/90	2.5	--	7.5	7.7	3.5	0.03	0.03	0.00	0.00	--	--	--	--
06/30/90	2.2	--	7.6	7.7	<3.5	0.03	0.03	0.00	0.00	--	--	--	--
07/31/90	1.9	--	7.5	7.8	0.5	0.03	0.03	0.00	0.00	--	--	--	--
08/31/90	1.4	--	7.0	7.8	3.7	0.03	0.03	0.00	0.00	--	--	--	--
09/30/90	1.4	--	7.6	7.9	4.1	0.02	0.02	0.00	0.00	--	--	--	--
10/31/90	3.0	--	7.6	7.7	8.1	0.02	0.02	0.00	0.00	--	--	--	--
11/30/90	2.5	--	7.5	7.7	3.1	0.02	0.02	--	--	--	--	--	--
12/31/90	4.5	--	7.5	7.7	5.1	0.02	0.03	--	--	--	--	--	--
01/31/91	3.2	--	7.4	7.6	<2.6	0.02	0.02	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0038709 – Liberty Farm Mobile Home Park													
03/31/91	2.2	--	7.4	7.6	<6.63	0.02	0.02	--	--	--	--	--	--
04/30/91	2.5	--	7.3	7.5	<4.05	0.02	0.02	0.60	1.50	--	--	--	--
05/31/91	1.8	--	7.2	7.6	2.8	0.02	0.02	0.60	0.80	--	--	--	--
06/30/91	1.6	--	7.2	7.6	<4.06	0.02	0.02	0.60	1.00	--	--	--	--
07/31/91	1.3	--	7.1	7.6	3.5	0.02	0.02	0.50	0.90	--	--	--	--
08/31/91	1.2	--	7.1	7.5	3.5	0.02	0.02	0.30	1.00	--	--	--	--
09/30/91	1.5	--	7.0	7.7	<3.1	0.02	0.02	0.50	1.00	--	--	--	--
10/31/91	1.4	--	7.3	7.8	<7.8	0.02	0.02	0.50	1.00	--	--	--	--
11/30/91	2.4	--	7.3	8.0	<3.1	0.02	0.02	--	--	--	--	--	--
12/31/91	3.1	--	7.2	7.8	<4.2	0.02	0.02	--	--	--	--	--	--
01/31/92	2.0	--	7.2	7.8	7.2	0.02	0.02	--	--	--	--	--	--
02/29/92	2.8	--	7.3	7.6	8.4	0.02	0.02	--	--	--	--	--	--
03/31/92	2.1	--	7.4	7.6	8.3	0.02	0.02	--	--	--	--	--	--
04/30/92	2.1	--	7.1	7.8	9.0	0.02	0.19	0.50	0.90	--	--	--	--
05/31/92	3.1	--	7.3	7.7	<3.9	0.02	0.02	0.50	0.90	--	--	--	--
06/30/92	3.3	--	7.3	7.8	4.0	0.02	0.02	0.50	0.90	--	--	--	--
07/31/92	2.5	--	7.3	7.7	1.7	0.02	0.02	0.50	0.90	--	--	--	--
08/31/92	2.4	--	7.4	8.0	<2.18	0.02	0.02	0.50	1.00	--	--	--	--
09/30/92	7.0	--	7.1	8.0	<3.08	0.03	0.02	0.60	0.80	--	--	--	--
10/31/92	6.5	--	7.1	7.7	10.6	0.02	0.02	0.50	0.80	--	--	--	--
11/30/92	6.9	--	7.3	7.6	3.5	0.02	0.02	--	--	--	--	--	--
12/31/92	6.9	--	7.5	8.1	<3.4	0.02	0.02	--	--	--	--	--	--
01/31/93	7.2	--	7.3	7.7	0.9	0.02	0.03	--	--	--	--	--	--
02/28/93	7.1	--	7.2	7.5	3.2	0.02	0.02	--	--	--	--	--	--
03/31/93	7.2	--	7.3	7.7	<3.22	0.02	0.03	--	--	--	--	--	--
04/30/93	6.7	--	7.3	7.6	<4.1	0.02	0.02	--	--	--	--	--	--
05/31/93	6.8	--	7.1	7.7	5.1	0.02	0.03	5.00	1.00	--	--	--	--
06/30/93	6.7	--	7.1	7.7	8.8	0.02	0.03	0.60	1.20	--	--	--	--
07/31/93	6.9	--	7.1	7.8	5.5	0.02	0.02	0.70	0.90	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0038709 – Liberty Farm Mobile Home Park													
10/31/93	7.5	--	7.4	7.7	<3.0	0.02	0.03	0.60	0.80	--	--	--	--
11/30/93	6.7	--	6.9	7.6	5.7	0.02	0.03	--	--	--	--	--	--
12/31/93	7.4	--	7.3	7.8	6.8	0.02	0.02	--	--	--	--	--	--
01/31/94	7.2	--	7.0	7.7	9.1	0.02	0.03	--	--	--	--	--	--
02/28/94	6.2	--	7.2	7.6	9.1	0.02	0.02	--	--	--	--	--	--
03/31/94	6.5	--	7.3	7.8	9.3	0.23	0.24	--	--	--	--	--	--
04/30/94	6.3	--	6.9	7.7	2.3	0.03	0.03	0.30	1.50	--	--	--	--
05/31/94	6.0	--	7.3	7.8	3.3	0.02	0.03	0.30	1.30	--	--	--	--
06/30/94	6.0	--	7.2	7.8	2.2	0.03	0.04	0.50	1.00	--	--	--	--
07/31/94	5.9	--	7.5	7.9	2.4	0.03	0.04	0.40	1.00	--	--	--	--
08/31/94	6.0	--	7.6	8.0	7.6	0.03	0.03	0.40	1.00	--	--	--	--
09/30/94	6.1	--	7.4	7.9	3.0	0.03	0.04	0.10	1.00	--	--	--	--
10/31/94	7.3	--	7.5	7.8	3.5	0.03	0.03	0.20	0.90	--	--	--	--
11/30/94	7.4	--	7.5	7.7	3.6	0.03	0.04	--	--	--	--	--	--
12/31/94	7.3	--	7.3	8.0	3.0	0.02	0.03	--	--	--	--	--	--
01/31/95	7.8	--	7.6	7.8	3.5	0.02	0.04	--	--	--	--	--	--
02/28/95	7.1	--	7.3	7.7	7.8	0.03	0.03	--	--	--	--	--	--
03/31/95	7.4	--	7.4	7.7	6.4	0.03	0.03	--	--	--	--	--	--
04/30/95	7.5	--	7.5	7.8	3.3	0.03	0.03	0.20	0.60	--	--	--	--
05/31/95	7.0	--	7.5	7.7	3.0	0.02	0.34	0.30	2.50	--	--	--	--
06/30/95	7.0	--	7.4	7.6	4.0	0.02	0.04	0.10	1.00	--	--	--	--
08/31/95	6.7	--	7.4	7.7	2.6	0.02	0.03	0.20	0.80	--	--	--	--
09/30/95	7.7	--	7.3	7.7	3.6	0.02	0.03	0.50	0.90	--	--	--	--
10/31/95	7.2	--	7.4	7.7	7.8	0.02	0.03	0.50	1.00	--	--	--	--
11/30/95	7.7	--	7.4	7.7	9.6	0.02	0.04	--	--	--	--	--	--
12/31/95	7.8	--	7.4	7.7	11.0	0.03	0.04	--	--	--	--	--	--
01/31/96	7.4	--	7.3	7.7	--	0.03	0.03	--	--	--	--	--	--
02/29/96	6.1	--	7.4	7.6	3.0	0.03	0.06	--	--	--	--	--	--
03/31/96	5.9	--	7.3	7.6	8.3	0.03	0.05	0.00	2.00	--	--	--	--
04/30/96	5.7	--	7.4	7.7	7.6	0.03	0.07	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0038709 – Liberty Farm Mobile Home Park													
06/30/96	6.1	--	7.0	7.5	3.8	0.03	0.04	0.50	0.89	--	--	--	--
07/31/96	6.0	--	6.5	7.4	2.8	0.03	0.06	0.51	1.73	--	--	--	--
08/31/96	2.3	--	6.5	7.6	5.3	0.03	0.03	0.50	1.00	--	--	--	--
09/30/96	6.1	--	6.6	7.4	6.2	0.03	0.03	0.30	1.00	--	--	--	--
10/31/96	6.0	--	6.3	8.1	5.8	0.03	0.03	0.60	1.00	--	--	--	--
11/30/96	7.7	--	6.6	7.4	3.5	0.03	0.04	--	--	--	--	--	--
12/31/96	6.4	--	6.6	7.5	5.4	0.04	0.04	--	--	--	--	--	--
05/31/97	6.1	1.20	7.0	7.8	17.5	0.03	0.03	0.51	0.98	--	--	--	--
06/30/97	6.2	1.60	7.0	7.7	6.5	0.03	0.04	0.63	1.00	--	--	--	--
07/31/97	5.1	1.20	7.0	7.8	5.0	0.04	0.04	0.60	1.00	--	--	--	--
08/31/97	6.3	1.60	7.1	7.6	8.5	0.04	0.04	0.60	0.95	--	--	--	--
09/30/97	6.3	1.40	7.1	7.7	2.8	0.04	0.04	0.50	1.00	--	--	--	--
10/31/97	7.6	1.30	7.0	7.6	4.9	0.04	0.04	0.69	0.97	--	--	--	--
11/30/97	7.3	3.10	7.0	7.7	7.2	0.03	0.04	--	--	--	--	--	--
12/31/97	8.4	4.10	6.7	7.7	7.3	0.03	0.03	--	--	--	--	--	--
01/31/98	7.8	3.90	6.7	7.8	4.9	0.04	0.04	--	--	--	--	--	--
02/28/98	5.1	2.60	7.0	7.8	4.3	0.04	0.04	--	--	--	--	--	--
03/31/98	7.6	3.70	7.5	7.8	6.4	0.04	0.06	--	--	--	--	--	--
04/30/98	6.4	3.00	7.0	8.0	9.0	0.04	0.04	0.50	1.00	--	--	--	--
05/31/98	6.1	2.60	7.4	7.8	5.9	0.04	0.04	0.50	1.00	--	--	--	--
06/30/98	6.0	1.80	7.6	8.0	3.9	0.03	0.04	0.51	0.98	--	--	--	--
07/31/98	6.1	0.80	7.5	8.0	2.7	0.04	0.05	0.05	1.00	--	--	--	--
08/31/98	5.8	1.10	7.0	7.7	2.7	0.03	0.04	0.50	1.00	--	--	--	--
09/30/98	6.1	1.16	7.3	7.8	5.4	0.04	0.04	0.50	0.98	--	--	--	--
10/31/98	6.0	1.51	7.2	7.6	7.3	0.04	0.04	0.51	0.92	--	--	--	--
11/30/98	6.1	1.62	7.2	7.6	6.3	0.04	0.04	--	--	--	--	--	--
12/31/98	6.2	2.15	7.2	7.6	7.9	0.04	0.05	--	--	--	--	--	--
01/31/99	7.4	4.70	7.0	7.7	13.2	0.04	0.05	--	--	--	--	--	--
02/28/99	7.0	3.50	7.1	7.6	15.3	0.00	0.00	--	--	--	--	--	--
03/31/99	6.4	3.50	6.7	7.5	9.4	0.04	0.04	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0038709 – Liberty Farm Mobile Home Park													
05/31/99	6.0	2.70	7.3	7.6	12.0	0.04	0.04	0.50	0.97	--	--	--	--
06/30/99	6.1	1.20	7.3	7.6	4.6	0.04	0.04	0.50	1.00	--	--	--	--
07/31/99	6.0	2.30	7.1	7.4	5.5	0.04	0.04	0.50	0.90	--	--	--	--
08/31/99	6.1	2.00	6.9	7.6	9.0	0.04	0.04	0.51	0.98	--	--	--	--
09/30/99	6.5	1.96	6.9	7.6	6.9	0.04	0.05	0.51	0.98	--	--	--	--
10/31/99	6.7	2.60	7.0	7.6	8.9	0.04	0.05	0.50	1.00	--	--	--	--
11/30/99	6.5	2.30	7.1	7.6	6.8	0.04	0.05	--	--	--	--	--	--
12/31/99	7.5	2.60	6.9	7.5	6.7	0.04	0.05	--	--	--	--	--	--
01/31/00	8.2	4.80	7.0	7.7	5.9	0.05	0.06	--	--	--	--	--	--
02/29/00	6.9	4.10	7.0	7.7	5.8	0.05	0.06	--	--	--	--	--	--
03/31/00	7.1	2.50	7.2	7.8	1.8	0.04	0.04	--	--	--	--	--	--
04/30/00	7.8	2.40	7.0	7.9	4.3	0.04	0.05	0.51	1.15	--	--	--	--
05/31/00	7.1	3.30	7.0	7.6	4.9	0.04	0.04	0.51	0.97	--	--	--	--
06/30/00	6.1	3.30	6.9	7.6	4.8	0.04	0.04	0.51	0.98	--	--	--	--
07/31/00	6.2	2.60	7.0	7.6	4.0	0.04	0.05	0.51	1.09	--	--	--	--
08/31/00	6.3	4.20	7.1	7.7	7.6	0.04	0.04	0.35	0.93	--	--	--	--
09/30/00	6.1	3.50	7.0	7.8	8.9	0.04	0.05	0.52	0.96	--	--	--	--
10/31/00	7.1	3.00	7.0	8.0	5.6	0.04	0.04	0.55	0.98	--	--	--	--
11/30/00	6.6	3.40	7.1	7.9	8.5	0.04	0.04	--	--	--	--	--	--
12/31/00	7.5	5.80	7.2	7.7	14.2	0.04	0.05	--	--	--	--	--	--
01/31/01	6.8	7.30	7.2	7.8	16.3	0.04	0.05	--	--	--	--	--	--
02/28/01	6.6	7.60	7.0	7.3	20.9	0.04	0.04	--	--	--	--	--	--
03/31/01	5.3	7.40	7.0	7.5	16.5	0.04	0.03	--	--	--	--	--	--
04/30/01	2.4	11.00	7.0	7.9	35.8	0.04	0.05	0.01	0.45	--	--	--	--
05/31/01	3.8	6.50	6.9	7.7	13.1	0.04	0.04	--	2.20	--	--	--	--
06/30/01	0.8	2.50	6.9	7.6	3.6	0.04	0.04	--	--	--	--	--	--
07/31/01	0.9	2.50	7.0	7.5	2.7	0.04	0.05	0.02	2.20	--	--	--	--
08/31/01	2.0	2.90	7.1	7.3	3.1	0.04	0.04	0.01	1.35	--	--	--	--
09/30/01	3.8	6.00	6.2	7.8	7.0	0.05	0.06	0.03	1.10	--	--	--	--
10/31/01	5.8	8.60	6.2	7.2	28.4	0.04	0.04	0.16	0.73	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0038709 – Liberty Farm Mobile Home Park													
12/31/01	6.5	--	6.9	7.6	8.5	0.03	0.04	--	--	--	--	--	--
01/31/02	7.0	6.80	7.0	7.8	9.1	0.04	0.03	--	--	--	--	--	--
02/28/02	6.4	6.30	6.6	7.4	8.6	0.04	0.05	--	--	--	--	--	--
03/31/02	6.8	6.40	6.6	6.9	12.9	0.03	0.04	--	--	--	--	--	--
04/30/02	6.5	6.10	6.8	7.3	11.7	0.04	0.04	0.15	1.10	--	--	--	--
Permit Number IN0039659 – Burns Harbor Estates													
01/31/89	--	10.00	6.9	7.3	9.0	0.04	--	--	--	--	--	--	--
02/28/89	--	8.00	7.0	7.3	7.8	0.04	0.04	--	--	--	--	--	--
03/31/89	--	8.40	6.8	7.2	7.7	0.04	0.04	--	--	--	--	--	--
04/30/89	--	4.20	6.9	7.3	6.2	0.04	0.04	0.40	0.90	--	--	--	--
05/31/89	--	8.20	7.0	7.2	9.0	0.04	0.04	0.30	0.50	--	--	--	--
07/31/89	--	13.00	6.9	7.3	11.5	0.04	0.04	0.40	0.60	--	--	--	--
08/31/89	--	23.80	6.8	7.3	18.0	0.04	--	0.50	0.80	--	--	--	--
09/30/89	--	5.00	7.0	7.3	4.2	0.04	--	4.00	0.70	--	--	--	--
10/31/89	--	5.00	7.0	7.2	4.7	0.04	--	0.40	0.70	--	--	--	--
11/30/89	--	8.44	6.8	7.2	6.7	0.04	--	--	--	--	--	--	--
12/31/89	--	4.40	7.0	7.3	5.6	0.04	--	--	--	--	--	--	--
01/31/90	--	10.50	6.8	7.1	6.5	0.04	--	--	--	--	--	--	--
02/28/90	--	12.50	6.8	7.1	8.4	0.04	--	--	--	--	--	--	--
03/31/90	--	22.60	6.8	7.0	24.8	0.04	--	--	--	--	--	--	--
04/30/90	--	13.07	6.8	7.2	8.0	0.04	--	0.40	0.90	--	--	--	--
05/31/90	--	22.00	6.7	7.1	20.0	0.04	--	0.20	0.80	--	--	--	--
06/30/90	--	6.70	6.9	7.2	7.9	0.04	--	0.40	0.80	--	--	--	--
07/31/90	--	8.32	6.8	7.1	3.4	0.04	--	0.40	0.80	--	--	--	--
08/31/90	--	3.36	6.9	7.4	4.7	0.04	0.04	0.60	0.90	--	--	--	--
09/30/90	--	9.20	6.9	7.1	1.9	0.04	--	0.50	0.70	--	--	--	--
10/31/90	--	33.76	6.8	7.1	19.2	0.04	--	0.20	0.80	--	--	--	--
11/30/90	--	27.80	6.9	7.1	25.4	0.04	--	--	--	--	--	--	--
12/31/90	--	9.50	7.0	7.3	14.8	0.04	0.04	--	--	--	--	--	--
01/31/91	--	8.60	7.2	7.6	7.8	0.04	0.04	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0039659 – Burns Harbor Estates													
03/31/91	--	13.50	7.2	7.6	7.3	0.04	0.04	--	--	--	--	--	--
04/30/91	--	34.00	7.2	7.7	13.7	0.04	0.06	0.10	0.80	--	--	--	--
05/31/91	--	18.15	7.2	7.7	11.1	0.04	0.04	0.50	1.00	--	--	--	--
06/30/91	--	3.30	7.2	7.7	6.6	0.03	0.03	0.50	1.00	--	--	--	--
07/31/91	--	5.60	7.4	7.9	5.9	0.03	0.03	0.50	1.00	--	--	--	--
08/31/91	--	3.30	7.3	7.7	4.7	0.02	0.03	0.50	0.90	--	--	--	--
09/30/91	--	3.90	7.3	7.8	4.8	0.03	0.07	0.50	0.90	--	--	--	--
10/31/91	--	4.00	6.8	7.9	3.6	0.04	0.05	0.60	0.90	--	--	--	--
11/30/91	--	9.00	7.3	7.7	10.0	0.04	0.04	--	--	--	--	--	--
12/31/91	--	4.00	6.8	7.5	6.7	0.04	0.04	--	--	--	--	--	--
01/31/92	--	5.30	7.4	8.0	8.3	0.04	0.04	--	--	--	--	--	--
02/29/92	--	3.32	7.5	8.0	2.9	0.04	0.04	--	--	--	--	--	--
03/31/92	--	5.85	7.5	7.9	8.9	0.04	0.04	--	--	--	--	--	--
04/30/92	--	6.80	7.5	7.9	11.8	0.03	0.04	0.50	0.90	--	--	--	--
05/31/92	--	2.00	6.6	7.9	1.5	0.03	0.03	0.50	1.00	--	--	--	--
06/30/92	--	3.00	7.5	7.7	5.4	0.03	0.03	0.12	0.90	26	400	--	--
07/31/92	--	4.30	7.6	7.9	9.3	0.03	0.04	0.04	1.00	--	--	--	--
08/31/92	--	2.30	7.4	8.7	6.8	0.03	0.03	0.11	1.00	345	4,500	--	--
09/30/92	--	2.00	7.5	8.2	3.0	0.03	0.04	0.60	0.80	12	100	--	--
10/31/92	--	2.00	7.6	8.0	2.7	0.03	0.03	--	--	--	--	--	--
11/30/92	--	3.80	7.4	7.8	7.0	0.03	0.04	--	--	--	--	--	--
12/31/92	--	4.40	7.5	8.0	3.1	0.03	0.05	--	--	--	--	--	--
01/31/93	--	4.00	7.7	8.0	2.6	0.04	0.05	--	--	--	--	--	--
02/28/93	--	4.80	7.5	7.7	3.9	0.04	0.04	--	--	--	--	--	--
03/31/93	--	2.00	7.5	7.7	4.7	0.04	0.05	--	--	--	--	--	--
04/30/93	--	2.00	7.4	7.5	5.4	0.04	0.04	0.54	0.94	4	11	--	--
05/31/93	--	2.00	7.5	7.8	5.6	0.04	0.05	0.64	0.89	8	30	--	--
06/30/93	--	2.70	7.5	7.6	4.4	0.05	0.08	0.70	0.93	7	19	--	--
07/31/93	--	2.00	7.5	7.6	5.8	0.03	0.06	0.70	0.92	--	--	--	--
08/31/93	--	2.10	7.5	7.6	4.8	0.04	0.05	0.60	0.91	7	41	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0039659 – Burns Harbor Estates													
10/31/93	--	3.70	7.4	7.6	7.5	0.04	0.04	0.81	0.20	24	37	--	--
11/30/93	--	2.00	7.4	7.6	3.3	0.05	0.05	--	--	--	--	--	--
12/31/93	--	2.70	7.4	7.6	5.8	0.03	0.03	--	--	--	--	--	--
01/31/94	--	2.70	7.4	7.6	10.0	0.04	0.05	--	--	--	--	--	--
02/28/94	--	4.80	7.4	7.6	4.6	0.04	40.00	--	--	--	--	--	--
03/31/94	--	4.50	7.5	7.7	8.8	0.03	0.04	--	--	--	--	--	--
04/30/94	--	11.00	7.5	7.7	5.3	0.04	0.06	0.57	0.84	--	--	--	--
05/31/94	--	10.00	7.5	7.7	7.0	0.04	0.06	0.60	0.90	13	11	--	--
06/30/94	--	18.00	7.4	7.6	5.0	0.06	0.09	0.50	0.80	38	3,600	--	--
07/31/94	--	19.00	7.3	7.5	7.0	0.05	0.05	0.60	0.90	64	164	--	--
08/31/94	--	17.00	7.5	7.6	8.0	0.04	0.05	0.71	1.00	--	--	--	--
09/30/94	--	6.00	7.4	7.6	5.0	0.05	0.05	0.80	1.00	3	6	--	--
10/31/94	--	4.00	7.4	7.7	7.0	0.06	0.06	0.60	1.00	2	2	--	--
11/30/94	--	14.00	7.4	7.6	6.0	0.05	0.06	--	--	--	--	--	--
12/31/94	--	3.00	7.4	7.6	5.0	0.05	0.06	--	--	--	--	--	--
01/31/95	--	6.00	7.4	7.6	6.0	0.05	0.06	--	--	--	--	--	--
02/28/95	--	7.80	7.4	7.6	8.4	0.05	0.05	--	--	--	--	--	--
03/31/95	--	7.00	7.4	7.6	9.8	0.04	0.05	--	--	--	--	--	--
04/30/95	--	38.00	D	D	D	0	0.00	--	--	10	1	--	--
05/31/95	--	7.60	7.2	7.6	10.0	0.04	0.04	0.50	0.70	140	900	--	--
06/30/95	--	7.60	7.2	7.6	10.0	0.04	0.04	--	1.00	2	2	--	--
07/31/95	--	2.00	7.5	7.7	7.0	0.06	0.06	0.50	1.00	1	113	--	--
08/31/95	--	2.00	7.3	7.6	10.8	0.07	0.07	0.50	1.00	2	2	--	--
09/30/95	--	2.00	7.4	7.6	9.5	0.06	0.06	0.60	0.90	1	1	--	--
10/31/95	--	3.40	7.3	7.7	9.6	0.07	0.07	0.60	1.00	--	--	--	--
11/30/95	--	2.10	7.1	7.4	6.5	0.06	0.06	--	--	--	--	--	--
12/31/95	--	3.70	7.3	7.4	5.0	0.06	0.06	--	--	--	--	--	--
01/31/96	--	6.10	7.3	7.4	8.0	0.06	0.06	--	--	--	--	--	--
02/29/96	--	37.00	7.1	8.0	72.0	0.05	0.05	--	--	--	--	--	--
03/31/96	--	88.00	7.2	7.8	167.0	0.04	0.05	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0039659 – Burns Harbor Estates													
05/31/96	--	73.00	7.1	7.8	170.0	0.05	0.06	0.50	1.00	--	--	--	--
06/30/96	--	35.00	7.3	7.7	9.0	0.05	0.05	0.40	0.70	1,213	1,213	--	--
07/31/96	--	55.00	7.3	7.6	130.0	0.05	0.06	0.40	0.90	--	--	--	--
08/31/96	--	8.30	7.4	7.9	6.0	0.04	0.05	0.40	1.30	--	--	--	--
09/30/96	--	6.00	7.4	7.6	5.0	0.04	0.05	0.50	2.30	--	--	--	--
10/31/96	--	7.10	7.2	7.8	4.0	0.04	0.05	0.50	0.70	--	--	--	--
11/30/96	--	9.60	7.5	8.0	28.0	0.04	0.05	--	--	--	--	--	--
12/31/96	--	14.20	7.4	7.7	8.7	0.05	0.05	--	--	--	--	--	--
05/31/97	--	3.30	7.5	7.8	3.7	0.04	0.04	0.08	1.00	--	--	--	--
06/30/97	--	24.50	7.4	7.7	7.2	0.05	0.05	0.36	0.97	--	--	--	--
07/31/97	--	5.60	7.3	7.7	4.7	0.05	0.05	0.52	0.89	--	--	--	--
08/31/97	--	8.10	7.4	7.8	4.7	0.05	0.06	0.55	0.97	--	--	--	--
09/30/97	--	7.50	7.2	7.7	7.0	0.04	0.04	0.52	0.96	--	--	--	--
10/31/97	--	6.60	7.0	8.3	5.1	0.04	0.05	0.60	0.80	--	--	--	--
11/30/97	--	5.00	7.6	8.1	8.2	0.05	0.06	0.26	1.30	--	--	--	--
12/31/97	--	1.20	7.5	7.9	8.0	0.44	0.05	0.20	1.20	--	--	--	--
01/31/98	--	12.50	7.5	8.2	9.7	0.04	0.05	0.10	1.00	--	--	--	--
02/28/98	--	5.00	7.2	8.0	5.5	0.03	0.03	0.35	3.00	--	--	--	--
03/31/98	--	10.50	6.9	8.1	18.0	0.04	0.05	0.54	1.00	--	--	--	--
04/30/98	--	5.25	6.9	8.0	7.8	0.03	0.05	0.42	0.93	--	--	--	--
05/31/98	--	5.50	7.0	8.0	7.3	0.03	0.07	0.60	1.00	--	--	--	--
06/30/98	--	5.80	7.0	8.0	5.0	0.03	0.05	--	1.00	--	--	--	--
07/31/98	--	5.00	7.3	8.0	2.8	0.05	0.08	--	1.00	--	--	--	--
08/31/98	--	15.00	7.5	8.0	6.0	0.05	0.11	0.10	2.20	--	--	--	--
09/30/98	--	7.20	7.4	8.0	4.0	0.05	0.06	0.50	1.00	--	--	--	--
10/31/98	--	2.30	7.5	8.1	4.0	0.04	0.05	0.50	1.00	--	--	--	--
11/30/98	--	6.40	7.5	8.0	7.5	0.04	0.07	0.50	1.00	--	--	--	--
12/31/98	--	5.00	7.5	8.1	8.4	0.05	0.09	0.50	1.00	--	--	--	--
01/31/99	--	4.10	7.5	8.1	4.9	0.07	0.14	0.50	1.00	--	--	--	--
02/28/99	--	3.60	7.5	8.2	4.3	0.05	0.06	0.50	1.00	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0039659 – Burns Harbor Estates													
04/30/99	--	7.90	6.8	7.9	10.9	0.06	0.08	0.50	1.00	4,703	7,900	--	--
05/31/99	--	5.10	7.6	8.1	8.0	0.05	0.05	0.50	1.00	--	--	--	--
06/30/99	--	4.40	7.0	7.8	3.7	0.06	0.07	0.50	1.00	155	5,000	--	--
07/31/99	--	2.20	7.2	8.0	1.5	0.06	0.07	0.50	0.90	80	140	--	--
08/31/99	--	3.90	7.3	7.8	2.9	0.07	0.09	0.53	0.99	5	81	--	--
09/30/99	--	2.70	7.5	8.2	3.5	0.06	0.07	0.52	1.00	9	58	--	--
10/31/99	--	2.50	7.2	8.0	3.7	0.06	0.06	0.01	0.06	8	118	--	--
11/30/99	--	2.90	7.5	7.9	3.5	0.06	0.07	0.50	0.82	--	--	--	--
12/31/99	--	2.80	7.2	7.9	2.4	0.07	0.14	0.54	0.97	--	--	--	--
01/31/00	--	2.90	7.3	7.8	1.8	0.04	0.05	0.50	0.98	--	--	--	--
02/29/00	--	3.70	7.4	7.7	2.8	0.05	0.05	0.50	0.97	--	--	--	--
03/31/00	--	5.80	7.2	7.7	3.3	0.04	0.42	0.50	1.00	--	--	--	--
04/30/00	--	4.60	7.1	7.7	4.5	0.05	0.06	--	--	--	--	--	--
05/31/00	--	3.00	7.2	7.8	3.2	0.04	0.05	--	--	--	--	--	--
06/30/00	--	3.20	6.9	7.8	1.4	0.05	0.06	--	--	--	--	--	--
07/31/00	--	2.80	7.0	7.9	1.0	0.04	0.05	--	--	--	--	--	--
08/31/00	--	2.90	6.8	7.8	1.4	0.04	0.04	--	--	--	--	--	--
09/30/00	--	4.10	6.9	7.8	1.8	0.04	0.05	--	--	--	--	--	--
10/31/00	--	4.10	6.6	8.1	1.9	0.06	0.07	--	--	--	--	--	--
11/30/00	--	2.00	6.7	8.6	3.3	0.05	0.11	--	--	--	--	--	--
12/31/00	--	2.30	6.6	8.1	5.6	0.04	0.05	--	--	--	--	--	--
01/31/01	--	1.21	7.0	7.9	4.4	0.05	0.05	--	--	--	--	--	--
02/28/01	--	1.30	7.2	7.7	4.3	0.05	0.06	--	--	--	--	--	--
03/31/01	--	1.60	7.3	7.9	5.4	0.06	0.06	--	--	--	--	--	--
04/30/01	--	2.10	7.1	8.0	4.8	0.05	0.05	--	--	--	--	--	--
05/31/01	--	2.23	7.2	7.8	5.8	0.06	0.06	--	--	--	--	--	--
06/30/01	--	1.77	7.3	8.3	4.0	0.06	0.63	--	--	--	--	--	--
07/31/01	--	1.17	7.3	8.4	4.3	0.03	0.24	--	--	--	--	--	--
08/31/01	--	1.88	7.2	8.2	5.1	0.03	0.29	--	--	--	--	--	--
09/30/01	--	1.13	7.1	8.0	4.0	0.06	0.06	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0039659 – Burns Harbor Estates													
11/30/01	--	1.58	6.9	8.5	4.2	0.08	0.09	--	--	--	--	--	--
12/31/01	--	6.50	7.8	8.4	4.0	0.07	0.07	--	--	--	--	--	--
01/31/02	--	1.03	8.3	8.6	4.8	0.07	0.07	--	--	--	--	--	--
02/28/02	--	1.15	7.9	8.5	4.5	0.07	0.07	--	--	--	--	--	--
03/31/02	--	1.44	7.9	8.4	4.1	0.07	0.07	--	--	--	--	--	--
04/30/02	--	2.38	7.1	8.1	5.0	0.07	0.08	--	--	--	--	--	--
Permit Number IN0042021 – Elmwood Mobile Home Park													
01/31/89	--	6.40	6.8	7.0	6.6	0.03	0.03	--	--	--	--	--	--
02/28/89	--	6.40	6.9	7.0	6.6	0.03	0.03	--	--	--	--	--	--
03/31/89	--	6.40	6.9	7.1	6.7	0.03	0.03	--	--	--	--	--	--
04/30/89	--	6.30	6.9	7.1	6.5	0.03	0.03	0.50	0.70	--	--	--	--
05/31/89	--	6.40	7.0	7.0	6.6	0.03	0.03	0.50	0.60	--	--	--	--
06/30/89	--	6.30	6.9	7.1	6.5	0.03	0.26	--	0.70	--	--	--	--
07/31/89	--	6.40	7.0	7.0	6.6	0.03	0.03	0.50	0.60	--	--	--	--
08/31/89	--	6.40	7.0	7.0	6.6	0.03	0.03	0.50	0.60	--	--	--	--
09/30/89	--	6.30	6.9	7.1	6.5	0.03	0.03	0.50	0.70	--	--	--	--
10/31/89	--	6.40	6.9	7.1	6.7	0.03	0.03	0.50	0.59	--	--	--	--
11/30/89	--	6.40	7.0	7.0	6.6	0.03	0.03	--	--	--	--	--	--
12/31/89	--	6.40	6.9	7.1	6.7	0.03	0.03	--	--	--	--	--	--
01/31/90	--	6.30	6.9	7.1	6.5	0.03	0.03	--	--	--	--	--	--
02/28/90	--	6.40	6.9	7.1	6.6	0.03	0.03	--	--	--	--	--	--
03/31/90	--	6.30	6.9	7.1	6.5	0.03	0.03	--	--	--	--	--	--
04/30/90	--	6.40	7.3	7.4	6.7	0.03	0.03	0.50	0.60	--	--	--	--
05/31/90	--	6.36	7.3	7.4	7.4	0.03	0.03	0.50	0.60	--	--	--	--
06/30/90	--	6.40	7.2	7.4	7.4	0.03	0.03	0.50	0.60	--	--	--	--
07/31/90	--	6.30	7.3	7.4	7.4	0.03	0.03	0.50	0.60	--	--	--	--
08/31/90	--	6.40	7.1	7.3	7.4	0.03	0.03	0.50	0.60	--	--	--	--
09/30/90	--	6.40	7.0	7.3	7.3	0.03	0.03	0.55	0.60	--	--	--	--
10/31/90	--	6.40	7.1	7.3	7.3	0.03	0.03	0.50	0.60	--	--	--	--
11/30/90	--	6.40	7.3	7.4	7.5	0.03	0.03	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0042021 – Elmwood Mobile Home Park													
01/31/91	--	6.40	6.9	7.3	7.3	0.03	0.03	--	--	--	--	--	--
02/28/91	--	11.95	6.9	7.3	8.0	0.03	0.03	--	--	--	--	--	--
03/31/91	--	5.18	6.9	7.1	8.4	0.03	0.03	--	--	--	--	--	--
04/30/91	--	2.68	6.9	7.0	3.8	0.03	0.03	0.60	0.50	--	--	--	--
05/31/91	--	2.40	7.0	7.1	3.6	0.03	0.03	0.50	0.70	--	--	--	--
06/30/91	--	2.45	7.0	7.6	2.7	0.03	0.03	0.50	0.60	--	--	--	--
07/31/91	--	2.00	6.9	7.7	2.3	0.03	0.03	0.50	0.60	--	--	--	--
08/31/91	--	2.58	7.1	7.4	5.3	0.03	0.03	0.50	0.60	--	--	--	--
09/30/91	--	2.26	7.3	7.9	3.2	0.03	0.03	0.50	0.70	--	--	--	--
10/31/91	--	2.40	7.8	8.0	1.0	0.03	0.03	0.50	0.60	--	--	--	--
11/30/91	--	2.66	7.6	8.0	5.1	0.03	0.03	--	--	--	--	--	--
12/31/91	--	2.18	7.6	8.1	1.1	0.03	0.03	--	--	--	--	--	--
01/31/92	--	9.55	7.2	7.8	5.4	0.03	0.03	--	--	--	--	--	--
02/29/92	--	4.63	7.5	7.8	8.0	0.03	0.03	--	--	--	--	--	--
03/31/92	--	10.63	7.2	7.7	7.8	0.03	0.03	--	--	--	--	--	--
04/30/92	--	22.99	7.6	7.8	12.6	0.03	0.03	0.50	0.60	--	--	--	--
05/31/92	--	6.80	7.5	8.0	8.3	0.03	0.03	0.50	0.70	10	20	--	--
06/30/92	--	13.80	7.6	8.0	6.5	0.03	0.03	0.50	0.60	180	250	--	--
07/31/92	--	21.30	7.5	8.7	4.2	0.03	0.03	0.40	0.60	<1000.	<1000.	--	--
08/31/92	--	15.70	7.6	7.6	9.3	0.05	0.07	0.57	0.60	>1000.	87,000	--	--
09/30/92	--	4.82	7.8	8.1	7.2	0.05	0.07	0.50	0.70	50	100	--	--
11/30/92	--	2.70	7.8	8.0	7.0	0.04	0.06	--	--	--	--	--	--
12/31/92	--	0.90	7.7	8.0	7.2	0.05	0.02	--	--	--	--	--	--
01/31/93	--	3.71	7.5	8.1	2.3	0.04	0.06	--	--	--	--	--	--
03/31/93	--	2365.00	7.7	7.8	5.0	0.04	0.06	--	--	--	--	--	--
04/30/93	--	2.65	7.6	7.8	4.8	0.04	0.06	0.60	0.80	15,140	60,000	--	--
05/31/93	--	2.66	7.4	2.7	5.0	0.04	0.06	0.67	0.70	23	50	--	--
06/30/93	--	1.40	7.1	7.8	6.0	0.04	0.07	0.60	0.80	--	--	--	--
07/31/93	--	10.00	8.1	7.6	6.0	0.05	0.06	0.60	0.80	--	--	--	--
08/31/93	--	5.79	7.6	8.1	4.2	0.05	0.08	0.60	0.80	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0042021 – Elmwood Mobile Home Park													
10/31/93	--	4.40	7.6	8.1	6.8	0.05	0.07	0.70	0.80	9,272	37,000	--	--
11/30/93	--	4.25	7.4	8.0	2.8	0.04	0.07	--	--	--	--	--	--
12/31/93	--	1.80	6.3	7.8	2.3	0.04	0.05	--	--	--	--	--	--
01/31/94	--	6.60	7.6	7.8	8.0	0.04	0.05	--	--	--	--	--	--
02/28/94	--	8.12	7.5	7.8	8.3	0.04	0.05	--	--	--	--	--	--
03/31/94	--	9.01	7.1	7.8	8.6	0.04	0.07	--	--	--	--	--	--
04/30/94	--	2.89	7.1	7.8	6.8	0.03	0.05	0.50	0.70	13	40	--	--
05/31/94	--	10.53	7.2	7.8	6.6	0.03	0.04	0.60	0.70	24	60	--	--
06/30/94	--	41.80	7.2	7.8	5.5	0.04	0.07	0.50	0.70	3	10	--	--
07/31/94	--	1.64	7.1	7.8	5.3	0.04	0.07	0.60	0.80	6	10	--	--
08/31/94	--	6.50	6.7	7.8	16.4	0.06	0.08	0.60	0.70	--	--	--	--
09/30/94	--	4.70	6.1	8.1	7.3	0.04	0.06	0.60	0.80	42	110	--	--
10/31/94	--	1.21	7.0	7.1	8.9	0.04	0.07	0.60	0.80	--	--	--	--
11/30/94	--	2.56	7.1	7.8	3.6	0.05	0.08	--	--	--	--	--	--
12/31/94	--	6.19	7.3	7.9	26.0	0.05	0.07	--	--	--	--	--	--
01/31/95	--	8.82	7.2	7.8	8.8	0.04	0.07	--	--	--	--	--	--
02/28/95	--	9.93	7.5	7.9	5.8	0.04	0.06	--	--	--	--	--	--
03/31/95	--	23.70	7.5	7.8	6.1	0.05	0.07	--	--	--	--	--	--
04/30/95	--	7.90	7.1	7.5	25.5	0.06	0.07	0.50	0.70	782	1,300	--	--
05/31/95	--	6.90	7.1	7.8	14.2	0.05	0.08	0.50	0.60	731	1,840	--	--
06/30/95	--	5.86	7.1	7.8	9.7	0.05	0.08	0.50	0.60	43	90	--	--
07/31/95	--	2.40	7.1	7.8	8.2	0.05	0.08	0.50	0.70	44	60	--	--
08/31/95	--	1.84	7.5	7.8	4.2	0.07	0.09	0.50	0.70	29	100	--	--
09/30/95	--	2.10	7.6	7.8	4.8	0.05	0.07	0.60	0.70	23	50	--	--
10/31/95	--	1.80	7.6	8.1	6.4	0.05	0.07	0.50	0.60	29	53	--	--
11/30/95	--	4.50	7.5	7.8	5.8	0.04	0.07	--	--	--	--	--	--
12/31/95	--	6.00	7.6	7.8	8.5	0.04	0.05	--	--	--	--	--	--
01/31/96	--	--	7.6	8.0	10.2	0.04	0.06	--	--	--	--	--	--
02/29/96	--	--	7.6	8.0	5.3	0.05	0.06	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0042021 – Elmwood Mobile Home Park													
05/31/96	--	--	7.6	8.0	5.0	0.06	0.07	0.50	0.70	23	60	--	--
06/30/96	--	--	7.6	7.9	4.0	0.06	0.08	0.50	0.60	--	--	--	--
07/31/96	--	--	7.6	8.1	3.0	0.05	0.07	0.50	0.60	--	--	--	--
08/31/96	--	--	7.1	7.7	1.0	0.06	0.07	0.50	0.70	14,015	42,000	--	--
09/30/96	--	--	7.1	8.0	6.8	0.05	0.06	0.60	0.80	--	--	--	--
10/31/96	--	--	7.0	7.9	6.4	0.05	0.06	0.50	0.60	>80	250	--	--
11/30/96	--	--	7.2	8.1	27.5	0.04	0.05	--	--	--	--	--	--
12/31/96	--	--	7.6	7.8	4.6	0.04	0.04	--	--	--	--	--	--
05/31/97	--	1.50	7.6	8.2	5.3	0.05	0.06	1.00	2.00	13	20	--	--
06/30/97	--	1.75	7.6	7.8	5.3	0.06	0.07	1.00	2.00	6,000	14,000	--	--
07/31/97	--	1.16	7.6	8.0	4.6	0.05	0.05	0.50	3.00	44	80	--	--
08/31/97	--	0.94	7.6	8.0	1.4	0.05	0.06	0.50	3.00	212	1,000	--	--
09/30/97	--	0.93	7.6	8.0	6.3	0.05	0.06	1.00	2.00	267	1,000	--	--
10/31/97	--	0.93	7.6	8.1	9.8	0.05	0.05	0.80	1.50	166	590	--	--
11/30/97	--	1.00	7.5	8.0	13.6	0.05	0.06	--	--	--	--	--	--
12/31/97	--	1.80	7.5	8.0	4.6	0.04	0.05	--	--	--	--	--	--
01/31/98	--	5.60	7.5	8.0	4.4	0.04	0.06	--	--	--	--	--	--
02/28/98	--	4.00	7.7	8.1	2.6	0.04	0.05	--	--	--	--	--	--
03/31/98	--	4.25	7.7	8.1	3.0	0.05	0.07	--	--	--	--	--	--
04/30/98	--	3.25	7.7	8.1	3.8	0.06	0.07	0.66	1.00	10	10	--	--
05/31/98	--	4.25	7.0	8.0	4.3	0.02	0.08	0.50	1.00	10	10	--	--
06/30/98	--	3.25	7.0	8.0	1.0	0.06	0.07	0.50	1.00	8	20	--	--
07/31/98	--	3.00	7.0	8.0	1.8	0.06	0.07	0.50	1.00	10	10	--	--
08/31/98	--	1.75	7.7	8.1	2.5	0.05	0.06	0.50	1.00	2	10	--	--
09/30/98	--	1.80	7.7	8.1	3.0	0.05	0.06	0.50	1.00	4	10	--	--
10/31/98	--	1.40	7.7	7.9	3.3	0.06	0.06	--	1.00	35	110	--	--
11/30/98	--	2.25	7.7	7.9	4.5	0.05	0.06	--	--	--	--	--	--
12/31/98	--	3.20	7.7	8.0	3.7	0.05	0.06	--	--	--	--	--	--
01/31/99	--	2.50	7.7	7.8	2.3	0.06	0.07	--	--	--	--	--	--
02/28/99	--	2.25	7.5	8.0	0.1	0.06	0.06	--	--	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0042021 – Elmwood Mobile Home Park													
04/30/99	--	1.00	7.7	8.0	4.5	0.05	0.06	0.80	1.00	6	70	--	--
05/31/99	6.2	1.25	7.3	8.0	4.5	0.05	0.06	0.60	1.20	4	50	--	--
06/30/99	6.4	2.00	7.4	8.0	14.0	0.05	0.06	0.61	0.75	10	230	--	--
07/31/99	6.4	2.75	7.4	8.2	6.0	0.05	0.06	0.40	0.60	10	10	--	--
08/31/99	6.4	1.50	7.5	8.1	5.3	0.06	0.06	0.50	0.75	10	20	--	--
09/30/99	6.4	0.75	7.2	8.1	10.3	0.05	0.06	0.60	0.70	10	40	--	--
10/31/99	6.3	2.00	7.5	8.0	5.0	0.06	0.06	0.50	0.75	13	30	--	--
11/30/99	6.3	1.00	7.4	8.0	5.0	0.05	0.06	--	--	--	--	--	--
12/31/99	6.3	3.40	7.6	8.1	4.0	0.05	0.06	--	--	--	--	--	--
01/31/00	6.3	1.90	7.7	7.8	5.8	0.05	0.06	--	--	--	--	--	--
02/29/00	6.0	1.90	7.6	8.0	7.5	0.05	0.06	--	--	--	--	--	--
03/31/00	6.1	4.40	7.4	7.9	9.2	0.05	0.06	--	--	--	--	--	--
04/30/00	3.2	5.00	7.6	8.0	8.0	0.05	0.06	0.50	0.90	8	20	--	--
05/31/00	6.3	2.80	7.6	8.0	11.6	0.05	0.06	0.10	0.90	20	40	--	--
06/30/00	6.2	1.50	7.6	8.0	7.8	0.05	0.06	0.60	0.90	18	70	--	--
07/31/00	6.2	5.00	7.6	8.0	10.0	0.05	0.06	0.50	0.80	64	17,000	--	--
08/31/00	6.0	10.30	7.2	8.0	8.0	0.05	0.06	0.60	0.80	15	30	--	--
09/30/00	6.2	4.80	7.1	8.1	6.0	0.04	0.05	0.60	0.80	17	20	--	--
10/31/00	6.0	2.00	7.6	8.0	5.0	0.04	0.09	0.70	0.80	125	370	--	--
11/30/00	6.0	5.60	7.6	8.4	6.8	0.06	0.07	--	--	--	--	--	--
12/31/00	6.0	2.00	7.4	8.4	4.0	0.06	0.09	--	--	--	--	--	--
01/31/01	6.0	--	7.8	8.0	4.4	0.05	0.06	--	--	--	--	--	--
02/28/01	6.0	2.00	7.5	7.8	2.3	0.07	0.12	--	--	--	--	--	--
03/31/01	6.1	2.30	7.2	8.0	4.5	0.03	0.05	--	--	--	--	--	--
04/30/01	6.5	1.10	7.3	7.5	4.8	0.04	0.05	0.50	0.98	--	--	--	--
05/31/01	6.5	1.30	6.9	7.8	4.5	0.05	0.07	0.50	0.99	--	--	--	--
06/30/01	6.0	1.00	7.1	8.1	4.0	0.03	0.05	0.50	0.99	--	--	--	--
07/31/01	4.8	1.10	7.5	7.8	4.0	0.02	0.03	0.55	0.64	--	--	--	--
08/31/01	4.8	1.10	7.4	7.8	4.0	0.01	0.04	0.55	0.64	--	--	--	--
09/30/01	6.1	1.20	7.0	7.5	4.0	0.02	0.02	0.51	0.58	--	--	--	--
10/31/01	6.1	1.00	7.3	7.5	4.2	0.01	0.02	0.50	0.81	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0042021 – Elmwood Mobile Home Park													
11/30/01	6.0	1.10	7.4	7.8	4.0	0.40	0.01	--	--	--	--	--	--
12/31/01	6.1	1.70	7.5	7.7	4.0	0.04	0.04	--	--	--	--	--	--
01/31/02	6.3	1.10	7.4	7.6	4.3	0.04	0.04	--	--	--	--	--	--
02/28/02	6.2	1.50	7.1	7.7	4.0	0.04	0.04	--	--	--	--	--	--
03/31/02	6.1	1.30	7.4	7.6	4.0	0.04	0.04	--	--	--	--	--	--
04/30/02	6.1	1.10	7.4	7.8	4.4	0.04	0.04	0.60	0.80	--	--	--	--
Permit Number IN0059064 – Mallard's Pointe Condominium													
07/31/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
08/31/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
09/30/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
10/31/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
11/30/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
12/31/98	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
01/31/99	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
02/28/99	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
03/31/99	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
04/30/99	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
05/31/99	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
06/30/99	2.8	2.00	7.0	7.0	5.7	--	--	0.50	0.90	--	--	--	--
07/31/99	4.0	0.90	7.0	7.8	6.1	--	--	0.50	0.90	--	--	--	--
08/31/99	6.3	2.10	7.3	8.0	9.2	--	--	0.40	1.00	--	--	--	--
09/30/99	7.0	2.09	7.3	7.6	4.5	--	--	0.40	0.60	--	--	--	--
10/31/99	8.8	0.90	7.1	7.4	3.3	--	--	0.50	1.00	--	--	--	--
11/30/99	5.5	11.00	7.5	7.7	6.4	--	--	--	--	--	--	--	--
12/31/99	6.2	7.90	7.4	7.6	6.4	--	--	--	--	--	--	--	--
01/31/00	6.1	3.40	7.2	7.5	8.1	0.00	0.00	--	--	--	--	--	--
02/29/00	6.2	3.90	7.2	7.5	3.3	0.00	0.00	--	--	--	--	--	--
03/31/00	6.0	4.38	7.3	7.5	2.3	0.01	0.01	--	--	--	--	--	--
04/30/00	6.0	3.23	7.4	7.7	3.6	0.01	0.01	0.50	0.99	--	--	--	--

Table 10. Water-quality data from the discharge monitoring reports of Semi-public NPDES discharge facilities, 1989-2002—Continued

Sample Date	Min. DO (mg/L)	Avg. BOD5 (mg/L)	Min. pH	Max. pH	Avg. Total Solids (mg/L)	Avg. Flow in TP (MGD)	Max. Flow in TP (MGD)	Min. Res. Cl (mg/L)	Max. Res. Cl (mg/L)	Avg. Fecal Coliform (no./100ml)	Max. Fecal Coliform (no./100ml)	Avg. MTEC-MF E.coli (CFU/100ml)	Max. MTEC-MF E.coli (CFU/100ml)
Permit Number IN0059064 – Mallard's Pointe Condominium													
07/31/00	5.4	5.55	7.3	7.5	2.0	0.00	0.01	0.72	0.98	--	--	--	--
08/31/00	5.0	5.74	7.0	7.4	1.5	0.01	0.01	0.60	1.00	--	--	--	--
09/30/00	6.3	4.43	7.2	7.4	0.8	0.01	0.01	0.60	0.90	--	--	--	--
10/31/00	6.2	8.12	7.3	7.5	0.5	0.01	0.01	0.51	0.97	--	--	--	--
11/30/00	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
12/31/00	--	--	--	--	--	0.00	0.00	--	--	--	--	--	--
01/31/01	11.1	2.10	7.6	8.0	2.4	0.01	0.01	--	--	--	--	--	--
02/28/01	8.8	2.80	7.3	8.0	3.8	0.01	0.01	--	--	--	--	--	--
03/31/01	9.4	4.20	7.2	8.5	11.3	0.01	0.01	--	--	--	--	--	--
04/30/01	6.2	3.10	7.2	7.6	11.0	0.01	0.01	0.50	1.00	--	--	--	--
05/31/01	6.3	2.10	7.2	7.7	5.0	0.01	0.01	0.60	1.00	--	--	--	--
06/30/01	6.4	2.30	7.3	7.8	5.8	0.01	0.01	0.60	1.00	--	--	--	--
07/31/01	6.6	5.80	6.7	7.8	10.1	0.02	0.05	0.50	1.00	--	--	--	--
08/31/01	6.2	5.70	7.2	7.8	7.1	0.01	0.01	0.50	0.90	--	--	--	--
09/30/01	6.7	2.20	7.5	7.9	4.2	0.01	0.01	0.60	1.00	--	--	--	--
10/31/01	7.4	1.30	7.3	7.6	4.0	0.01	0.02	0.50	0.90	--	--	--	--
11/30/01	6.3	1.40	7.2	7.7	2.7	0.01	0.02	--	--	--	--	--	--
12/31/01	8.7	2.10	7.6	7.8	3.8	0.02	0.02	--	--	--	--	--	--
01/31/02	9.3	1.80	7.4	8.0	3.0	0.02	0.02	--	--	--	--	--	--
02/28/02	8.3	3.20	7.7	7.8	3.0	0.02	0.02	--	--	--	--	--	--
03/31/02	6.4	4.00	7.3	7.8	4.8	0.01	0.01	--	--	--	--	--	--

Table 11. Volume of combined sewer overflows and inches of precipitation in Valparaiso, Indiana, obtained from NPDES CSO Monitoring Reports, 2001-2002
[--, no data; date is month/day/year; MG, million gallons]

Sample Date	Precipitation on overflow date (inches)	Precipitation day prior to overflow (inches)	Volume of Overflow (MG)
10/05/01	0.16	0.00	3.2
10/12/01	1.04	0.30	5.40
10/13/01	1.63	1.04	25.90
10/14/01	0.30	1.63	--
10/16/01	1.19	0.02	20.20
10/24/01	0.64	0.35	10.90
01/31/02	0.95	1.26	10.50
03/08/02	0.27	0.00	12.40
03/09/02	0.21	0.27	20.30
04/02/02	0.52	0.13	1.95
04/08/02	0.96	0.00	7.39
04/09/02	0.04	0.96	7.17
04/21/02	0.35	0.76	2.54
04/27/02	0.77	0.00	0.95
04/28/02	0.00	0.77	1.01
05/09/02	0.74	0.04	3.67
05/11/02	1.36	0.00	24.40
05/12/02	0.99	1.36	96.00
05/13/02	0.00	0.99	2.38